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RAILROAD RECORD,

AND

Journal of Commerce, Banking, Manufactures and Statistics;

EDITED BY

E. D. MANSFIELD AND T. WRIGHTSON,

VOLUME XVII.

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Wrightson & Co., Printers and Publishers, 167 Walnut Street.
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INDEX TO VOLUME XVII

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E. D. MANSFIELD AND T. WRIGHTSON

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The result of this was another disastrous overthrow, in which all the banks of the country suspended, and the government was em-

barrassed. The Bankrupt Act was passed, and tens of thousands took advantage of it. Thus we see, that the reduction of the tariff has in every instance resulted in commercial disasters, depressing the trade of the country, disturbing its industry, and ruining thousands of its enterprising people.

In the facts we have given here may be seen the immense influence exercised on the commerce and industry of the country by the tariff. It will be seen, that whenever the tariff was raised, commerce became stable and industry was developed; and, whenever the tariff was greatly reduced, there were commercial convulsions, banks became insolvent, the revenue was diminished, and tens of thousands of merchants and manufacturers lost their fortunes and their business, by blunders of the government for which they were in no way responsible. We have given this brief history, in order that if it be read by any intelligent man, interested in the public welfare, he may see in the most incontrovertible facts, compared with the history of the country, that we can not permit free importations without ruin to merchants and manufacturers; and that the development and stability of American industry depends much, if not altogether, upon maintaining as high a tariff as is consistent with the most revenue.

Geological Survey of Ohio.

Mr. Lee, of Delaware, a member of the Legislature, has introduced a bill for a geological survey of the State. We are glad of this, and also glad it meets with little opposition. In 1835-38 there was a preliminary survey (geological) made, which was, however, cut short by a sudden fit of economy—a very unfortunate fit of economy—for, we believe, the State has lost millions of dollars by not knowing precisely where the limits and the strata of our coal and iron lay. We trust that provision may be made of an exact topographical survey. We have no good map of this State, because we have no topographical delineation of any part of the State. We have not even the exact latitude and longitude of many important places. We hope, therefore, one of the assistants provided for in the bill may be able to give us the topography and even the astronomy of the State.

The report of Mr. Lee is able and interesting, and we shall make some extracts from it, which will illustrate the value of the survey:

Your committee also find upon the shelves of our State Library the published reports of the surveys of Kentucky, Massachusetts, Wisconsin, Vermont, New Hampshire, Missouri, New Jersey, Virginia, Rhode Island, Michigan, Connecticut, North Carolina, Maine, Alabama, Tennessee, Arkansas, Canada, and one volume comprising a general survey of Iowa, Wisconsin and Illinois. Besides these, many of them very elaborate and beautiful in design, the incomplete and cheaply executed Ohio report stands in painful comparison, in

no respect equaling any, except, perhaps, those of New Jersey, Virginia and Rhode Island.

As the various geological reports have been extensively used by our Government agents and railroad men in negotiating foreign loans, and are carefully consulted abroad by those who wish to invest their capital or fix their homes in America; and, furthermore, as these reports are considered the only authentic and thoroughly reliable exposition of the agricultural and mineral resources of a particular section, it is easy to see how important it is that Ohio, one of the first States of the Union, should no longer delay in giving to the world adequate scientific information of the vast elements of wealth that lie treasured in her bosom.

In speaking of the advantages of a geological survey to agriculture, Mr. Lee says:

Other advantages to agriculture, more direct and no less important, may be expected from an examination of the capacities and adaptations of the soils of different districts, and of the distribution and application of our mineral fertilizers, of which there is great and increasing need. In spite of all that has been gained by experience, and of all the improvements given to agricultural and mechanical skill, our annual product has not been increased, either per acre or in the aggregate, but, during the last two decades, has exhibited a steady and startling decline. This, too, in the face of a rapidly increasing population, requiring every year an additional amount, for consumption, and by so much diminishing our surplus for export. The losses in the wheat crop during the five years immediately preceding 1857 were nearly twenty million bushels. In 1850 the yield was seventeen bushels to the acre. In 1855 the yield was less than fifteen bushels per acre, and 250,000 acres less were sown than in 1850. From 1850 to 1853, both inclusive, the crop averaged 14.6 bushels per acre, and the acreage of 1854 should, at the same rate, have produced 31,548,651 bushels; instead of which the crop was but 11,819,110 bushels, being a decrease from the average aggregate of 67,729,441 bushels. The crop of 1856 was less than the average from 1850 to 1853, by 6,247.37 bushels. The losses from 1853 to 1856, both inclusive, were 17,617,245 bushels; or about 14 per cent. of the entire amount produced from 1853 to 1856. (See Ag. Rep. for 1858.) Between 1852 and 1862 no single crop yielded 14 bushels per acre, and the average yield during the years 1864-5-6 was but 5.57 bushels per acre. It is estimated that during those years there was an actual deficit of three million bushels annually below the amount required for bread within the State. During the present decade the maximum acreage of wheat was grown in 1862, and the minimum in 1867, the difference being almost a million acres. Yet it does not appear that in 1866 other human food crops were grown to an extent corresponding with the diminution since 1862, the total acreage of those crops in 1867 being half a million less than in 1862. (See Ag. Reg. 1867.)

This decrease in the agricultural product in Ohio may possibly be attributed in part to other causes; but there can be no reasonable doubt that it is largely due to an actual decline in the productive power of the soil. Other States and countries, some of them the richest in the world, have experienced the same decline, and it may be observed wherever the appliances of nature and of science

have not been sedulously employed to repair the waste of cultivation. Many provinces of the Old World, once noted for their fertility, are now completely sterile, and to this exhaustion of the soil, according to Baron Liebig, may be attributed the gradual depopulation of the countries bordering on the Mediterranean. Spain, for example, was once one of the richest countries in Europe; but now the land in some of her provinces only yields a crop once in two years, and in Andalusia only once in three years. A like phenomenon has been observed in some sections of our own country, which, from a condition of remarkable fertility, have relapsed into a barren wilderness.

The fact is the grain lands of Ohio need fertilizing, but in what way depends largely on what may be ascertained by a geological examination.

Of minerals, he says:

A single example of what may be gained in this way may be mentioned. The Briar Hill seam of coal, mined at Youngstown and vicinity, is a very superior coal, and is extensively used in the raw state for the manufacture of iron. The exact geological equivalent of this coal is found at Jackson, Jackson County, where its quality for iron making is superlative, and where it is largely used in the raw state. These two points are wide apart. May not the seam be found at intermediate points, and also at points between Jackson and the Ohio river? No intelligent search has ever been made. The finding of this single seam of coal at new points along the line of the outcrop of our lower coal measures would be worth millions of dollars to the State.

The same may be said in regard to the search at new points for black band iron ore, the discovery of which in Scotland revolutionized her iron trade, and was productive of great wealth. This ore has been found and worked at one or two points in the State, but no intelligent search for it has ever been made in other parts of our coal treasures.

Another important and desirable work is the careful analysis and metallurgical study of our various iron ores. The mixture of Ohio with Michigan iron, by which both are said to be improved, is already becoming the basis of an important interest in one section of the State, while a similar mixture with Missouri iron promises equally profitable results in another. It is a matter of great importance to the interests of the State that these discoveries should be scientifically followed out.

Of miscellaneous minerals, he says:

Most of our fire brick are imported from other States, while we have an abundant supply of materials for their manufacture quite as good as those from which the Amboy brick, or even the Welsh brick, which cost \$100 per thousand, are made. No hydraulic cement is made in the State, and we are every year importing some hundreds of thousands of barrels from the States of New York and Kentucky, while we have an abundance of excellent hydraulic lime. The Cincinnati Bridge Company paid \$50,000 to the Louisville Hydraulic Cement Company for cement used in their bridge over the Ohio.

Gypsum is mined in but one locality, while it is probable that it can be profitably worked in a dozen.

From one town in the State building stone is being sent in large quantities to New York, and from another, not far distant, grind-

stones are sent to all parts of the Union. It is not unlikely that other quarries are capable of producing materials equally good at no greater cost.

Ohio imports most of her gas coal from Pennsylvania, while it is certain that we have enough, quite as good, within our own limits.

Northern Ohio imports and uses, annually, two hundred thousand tons of iron ore, and the manufacture of iron is assuming great importance, because the rich, crystalline ores of Lake Superior, Canada and New York, there meet a peculiar valuable furnace coal, furnished by the lowest stratum in our coal basin, while, in other parts of the State, from the exhaustion of charcoal, the fuel hitherto used, the iron interests languish in the midst of abundant native ores. A careful and intelligent examination would probably supply a fuel for smelting these ores, by the discovery of furnace coals, in the upper seams, or by proving the lower coal accessible by shafting.

If, then, our mining interests are of such paramount importance, is it wise or economical to leave them longer without systematic effort for their development.

Michigan has already received fifty times as much as her survey cost her from the Saginaw salt wells, bored at the suggestion of her State Geologist, and she is certain to be repaid a thousand fold from that source alone.

County and Township Railroad Bonds.

NEW YORK.

The New York *Tribune* gives the following summary of a bill introduced into the New York Legislature by the Assembly Railroad Committee in regard to the bonding of towns. It has been the rule of the Legislature for several years past to pass these bonding bills. This general law will stop this species of special legislation:

The bill provides that whenever a majority of the taxpayers of any municipal corporation in this State shall make application to the County Judge, by a petition, that they desire the municipal corporation to issue its bonds (not to exceed 30 per cent. of the value of its taxable property) and to invest them in any railroad in the State, the judge shall publish a notice of the same in some newspaper in the county; he shall also appoint three commissioners who shall hold the office five years, and whose duty it shall be to cause to be made the bonds referred to, which shall be payable at the end of thirty years, with interest at seven per cent. due semi-annually. These bonds may be invested in the stock of the aforesaid railroad, and shall be a charge on the real and personal estate within the limits of its municipality. Any surplus of interest or dividends, after paying the interest on the town bonds, is to go to make up a sinking fund for the payment of the principal of the bonds.

OHIO.

Proposed Amendment to State Constitution.

Mr. Linn offered for adoption the following resolution, which was ordered to be printed:

"Resolved. By the General Assembly of the State of Ohio, three-fifths of the members elected to each House agreeing thereto, that it be and is hereby proposed to the electors of this State to vote at the next October election upon the approval or rejection of the following amendment, as a substitute for the sixth

section of the eighth article of the Constitution of this State, to-wit:

"SECTION 6. The General Assembly shall never authorize any county, township, town or municipal corporation, by a vote of its citizens or otherwise, to become a stockholder in any joint stock company, corporation or association, or to raise money for, or loan its credit to or in aid of, any company, corporation or association, except counties, townships and municipal corporations may, in such manner as shall be provided by law, loan their credit to aid in the construction of railroads to an amount in the case of a county, not exceeding, at any one time, one per cent. of the value of the property of the county on the duplicate for taxation, and in the case of a township or municipal corporation not exceeding at any one time two per cent. of the value of the property of the township or municipal corporation on the duplicate for taxation, but no law authorizing any such loan shall go into operation until approved by the vote of a majority of the electors to be affected thereby, voting at some regular election."

Denver Pacific Railway—In Congress.

Mr. Howard: I move to take up Senate bill No. 871, to transfer the lands granted to the Union Pacific Railway Company, eastern division. It is for the purpose of enabling the Denver branch road that runs from Denver to the Union Pacific Railroad proper, at Cheyenne, to form a connection with the eastern division.

Mr. Morrill, of Vermont: I hope the Senator will not persist in asking to have such a bill as that taken up now. There are but fifteen minutes before, by a vote of the Senate, we are to take a recess, and it manifestly can not be explained so as to receive the vote of a majority of the Senate in that time.

Mr. Howard: I think very little explanation will be necessary, if any.

The President *pro tempore*: It requires unanimous consent to take the bill up, as another measure is pending.

Mr. Morrill, of Vermont: It can not be passed in this time.

Mr. Howard: It grants no land and no money. I hope there will be no objection.

By unanimous consent, the Senate, as in Committee of the Whole, proceeded to consider the bill (S. No. 871) to authorize the transfer of lands granted to the Union Pacific Railway Company, eastern division, between Denver and the point of its connection with the Union Pacific Railroad, to the Denver Pacific Railway and Telegraph Company, and to expedite the completion of railroads to Denver, in the Territory of Colorado. The bill proposes to authorize the Union Pacific Railway Company, eastern division, to contract with the Denver Pacific Railway and Telegraph Company, a corporation existing under the laws of the Territory of Colorado, for the construction, operation and maintenance of that part of its line of railroad and telegraph between Denver City and its point of connection with the Union Pacific Railroad, which point shall be at Cheyenne, and to adopt the roadbed already graded by the Denver Pacific Railway and Telegraph Company as the line, and to grant to the Denver Pacific Railway and Telegraph Company the perpetual use of its right of way and depot grounds, and to transfer to it all the rights and privileges, subject to all the obligations pertaining to that part of its line.

The Union Pacific Railway Company, eastern division, is to extend its railroad and telegraph to a connection at the city of Denver, so as to form with that part of its line herein authorized to be constructed, operated, and maintained by the Denver Pacific Railway and Telegraph Company, a continuous line of railroad and telegraph from Kansas City, by way of Denver, to Cheyenne. All the provisions of law for the operation of the Union Pacific Railroad, its branches and connections, as a continuous line, without discrimination, are to apply the same as if the road from Denver to Cheyenne had been constructed by the Union Pacific Railway Company, eastern division; but nothing herein is to authorize the eastern division company to operate the road or fix the rates of tariff for the Denver Pacific Railway and Telegraph Company.

The companies may mortgage their respective portions of the road for an amount not exceeding \$32,000 per mile to enable them respectively to borrow money to construct the same; and each of the companies is to receive patents to the alternate sections of land along their respective lines of road, as defined in the bill, in like manner and within the same limits as is provided by law in the case of lands granted to the Union Pacific Railway Company, eastern division; but neither of the companies named is to be entitled to subsidy in United States bonds under the provisions of the act.

The President *pro tempore*: It is moved that the bill be postponed until to-morrow.

Mr. Howard: I hope not.

Mr. Harlan: This bill does not grant an additional acre of land nor a single dollar of bonds, nor any thing else. It enables two companies to arrange for the construction of a line. That is all there is in the bill.

Mr. Howard: It appropriates neither land nor money.

Newport and Cincinnati Bridge.

Mr. Ramsey: The Committee on Post Offices and Post Roads, to whom was referred the joint resolution (S. R. No. 219) giving the assent of the United States to the construction of the Newport and Cincinnati Bridge, have directed me to report the bill with an amendment, and recommend its passage.

Mr. Sherman: That is purely a local matter in regard to a bridge across the Ohio river, and all the parties who have been contesting it heretofore have agreed upon a four hundred feet span. I hope, therefore, the Senate will take up the bill and pass it in order to enable the work to go on at once. There is no further controversy about it. It fixes the span of the Covington bridge at four hundred feet. I hope, therefore, it will be considered at once. It is very short.

By unanimous consent the Senate, as in Committee of the Whole, proceeded to consider the joint resolution. It proposes to give the consent of Congress to the erection of a bridge over the Ohio river from the city of Cincinnati, Ohio, to the city of Newport, Kentucky, by the Newport and Cincinnati Bridge Company, a corporation chartered and organized under the laws of each of the States of Kentucky and Ohio. The bridge is to be built with an unbroken or continuous span of not less than four hundred feet in the clear, from pier to pier, over the main channel of the river, and to be built in all other respects in accordance with the conditions and limitations of an Act entitled "An Act

to establish certain post roads," approved July 14, 1862. The bridge, when completed in the manner specified, is to be deemed and taken to be a legal structure, and to be a post road for the transmission of the mails of the United States; but Congress reserves the right to withdraw the assent hereby given in case the free navigation of the river shall at any time be substantially and materially obstructed by any bridge to be erected under the authority of the resolution.

The Committee on Post Offices and Post Roads reported the joint resolution, with an amendment, to add the following words:

"Or direct the necessary modifications and alterations of said bridge."

The amendment was agreed to.

The joint resolution was reported to the Senate as amended, and the amendment was concurred in.

The joint resolution was ordered to be engrossed for a third reading, was read the third time and passed.

Blue Ridge Southern Railroad.

The following interesting letter is another appeal to the dormant enterprise of our people, to arouse and reach out an arm to seize the created wealth of the reviving South. These great interests have been knocking at our doors for a quarter of a century, yet we stand firmly against them, and shout, "No Admittance." More generous and more enterprising friends will be found somewhere, when we will long for what we now drive away by neglect:

ANDERSON, S. C. Feb. 16, 1863.

MESSRS. EDITORS: Believing that every item of progress in securing the direct and speedy connection between the great cities of the West and the city of Charleston, would be welcome news to you, induces me to again write you.

You will remember that the State of South Carolina, in September last, agreed to guarantee the Bonds of the Blue Ridge Railroad Company to the extent of \$4,000,000. The State, City of Charleston and private citizens had already subscribed and paid in over two and a half millions of stock to this road, which had been judiciously and wisely expended.

The road is completed and running to Walhalla, 34 miles, with one-half the remaining work to Knoxville, as to cost, also done. The expensive part of the road is between Walhalla and the Rabun Gap, a distance of 30 miles, including heavy tunneling, grading and masonry. When the road reaches the Rabun Gap, all the difficulties are surmounted, and the passage down the Tennessee river is easy, and comparatively cheap. The Blue Ridge Railroad Company are actively engaged in preparing the estimates for a resumption of the work; a corps of engineers will be in the field before this reaches you, to re-adjust the estimates; and already a company is being organized, who will bid for all the tunneling, in advance of the other work. It will require, perhaps, twenty months to complete the road to Rabun Gap, but in the same time the whole road from Walhalla to Knoxville

can be completed and put in operation. This result can be accomplished if the funds are provided promptly. The State of South Carolina and the people have furnished substantial evidence of their desire for this direct communication by the appropriation of these millions of money. Will not Cincinnati and Louisville, and the great connecting railroads of each city, come to our aid, and enable us speedily to build and equip this great and important link?

It might be wise policy for these cities, to secure a material interest in this road, by way of stock and a voice in its management. We intend to build the road to Knoxville, it may cost us several years of arduous labor; but if the money can be obtained, it can be accomplished in twenty months, and the West and the Atlantic coast thus brought in this close, direct and advantageous commercial connection.

Yours, &c.,

J. W. HARRISON.

The Pacific Railroads.

MAJORITY REPORT OF THE SENATE COMMITTEE—GOVERNMENT SUBSIDIES RECOMMENDED.

WASHINGTON, February 19.—A majority of the Senate Committee on Pacific Railroads made a report to-day through Senator Stewart. They say when it was determined in committee to report to the Senate a bill granting aid to the Northern Pacific and other railroads, it was not understood the bill should be presented with a report. The majority of the committee would now be content to let the bill rest on its intrinsic merits, unaccompanied by an explanation of its provisions and a demonstration of its policy and necessity, were it not for the unexpected appearance, first in the newspaper press and afterward in the Senate, of a most extraordinary paper, entitled "Views of the Minority," a paper unsound in theory, unfair in its inferences, and ungenerous and unjust in its imputations. To justify now the action of the majority of the committee, they now report to the Senate the consideration which induced them to adopt the policy of aiding at the present time with Government credit the construction of additional lines of trunk railway to the Pacific coast; and second, to vindicate the provisions of the bill which have been criticized by the minority of committee in their published views. The majority present arguments and facts as a justification of their action in regard to the general railroad policy of the bill, and a defense of its leading provisions. They assert that railroads—the highways of nations—are the measure of their civilization, and maintain that there is no object to which Government can so profitably apply the expenditures of money as to the building of such highways. These should take precedence over any and all other objects of legislative endowment. The United States own the country between the Pacific and Lake Superior. The work of developing is for the Government. The population of the country is too thin and too poor to ever undertake it. The work, moreover, is of such magnitude as to be wholly beyond the compass of private capital. It is of absolute necessity that the Government shall undertake it and help it through; and this it can do without the expenditure of a dollar in money or an increase of the public

debt. In like manner it is manifestly a public duty to utilize the enormous national capital that now lies idle. In the southern region, between the western boundaries of Arkansas and the Pacific boundary of California, there is a vast national domain of corn, wheat, cotton and grass lands too distant from market to be profitably cultivated, save for local consumption. Coal abounds in this region. New Mexico and Arizona are as rich in gold, silver, copper and lead as any other known portions of the world. This wealth is unavailable to the nation by reason of the cost of moving machinery and materials to it, or of moving the ores to machinery. The pasturage of the two great territories pre-eminently fitted for fine wool sheep and cattle which graze out the winter though it is lost to the country for want of cheap and easy access to it. The report then argues that a debtor Government is bound to improve its assets, that the Government is under obligations to give railroads to distant territories; that trans-continental railroads will give us what railways can not give England or France, namely: increase of population by immigration, and that two additional trunk railways to the Pacific are necessary. A majority of the committee feel sure that the most experienced railroad operators in the United States will agree with them in saying that within a year after the Union Pacific Railway is opened it will be unable to move the freight that will be crowded on it. They argue that a single line will be a monopoly. The South is entitled to a line. The Southern States have the same rights that the middle or Northern States have. They have the right of access to the Pacific on their parallels of latitude; they have a right to their share of the trans-continental commerce between Asia and Europe. The North, too, is entitled to a Pacific Railroad. The majority of the committee insist that additional lines are necessary, to have uninterrupted communication. The Pacific railroads will settle the Indian question. The locomotive is its sole solution of it, as thereby the country will be gradually settled, by taking the buffalo range out from under the savage, and putting a vast stock and grain farm in its place. The railroads to the Pacific are also a military necessity. The majority of the committee argue, in view of our commercial relations with China, Japan and India, which are being constantly extended, that it is incumbent upon the Government to afford such sufficient channels of intercommunication as will secure the quickest and most certain transit to all parts of our country, in view of this foreign trade, and to insure as far as possible, the construction of additional roads at the earliest practicable period. The majority of the committee discuss at length the saving of treasure that two more roads would affect, and how additional lines would otherwise pay the nation. The North Pacific Railroad will acquire for us the British Possessions; the South Pacific Railroad will annex Northern Mexico, and make the guarantee of the interest upon the roads' bonds perfectly safe. They answer the objection of untimeliness of present aid, and argue that so profitable are railroads that the Government could have afforded to build all the roads in the United States; and conclude by expressing the belief that the credit of the nation and the value of its securities will be enhanced and not diminished by our entering immediately upon the completion of our avowed policy of trans-continental railway extensions, and steadily pursuing it to the end.

Hot for the Border.**ANOTHER IRON LINK BETWEEN KENTUCKY AND TENNESSEE.**

[From the Louisville Courier-Journal.]

LOUISVILLE, February 17, 1869.

I have just returned from the counties through which the proposed branch railroad from Elizabethtown to the Tennessee State line will pass. I find there is but one feeling on the subject, and that is that a road must be built. The remaining question is, from what sources are its friends to obtain the money to build it. The counties of Hardin, Larue, Green, Adair and Cumberland will vote a tax of \$300,000 each, making \$1,200,000. I take it as a fixed fact that in those counties mentioned individual subscription can be obtained equal to the fraction of \$680,000; leaving a balance yet to be raised of one million dollars; the basis of this estimate is that the distance from Elizabethtown to the Tennessee State line is supposed to be eighty miles, and will cost \$36,000 per mile; the entire cost of this road at this estimate is \$2,880,000. This is a reasonable calculation of the cost of construction of this road. My recollection is that a survey made in 1856 or 1857, by a competent engineer, from Danville to the Tennessee State line, through the counties of Boyle, Lincoln, Casey, Adair and Cumberland, would cost by estimate made by said engineer \$36,000 per mile. This sum may not now include all the equipments necessary under the present organized system of railroading, but it is a fair estimate. The time has come, and the fact of a construction of a road must be settled very soon. The people on that line are impatient. The citizens of the counties through that particular portion of the State are determined to connect themselves with the North and South by railroad, enabling them to compete successfully in the markets of both North and South, with other more favorable portions of the State, with their products; and it is a matter of some commercial and mercantile importance to the city of Louisville to invite the business of these southern counties to this market. Should this road be completed to the State line—and it is impossible to build it as soon as the Tennessee end meeting it—it will be completed by the State of Tennessee. The road from McMinnville, Tennessee, in the direction of Kentucky is now under contract, within, perhaps, forty miles of its terminus at the State line. The importance of this road will be appreciated when the country south of the Tennessee line will be made tributary to the city of Louisville. It is in contemplation to build a road from Decatur, Alabama, to Atlanta, Georgia, another to Selma, Alabama, another to Jackson, Mississippi. When these three roads shall have been built, diverging from Decatur, Nashville then will be the point of concentration of the Southern merchants, there being already a railroad extending from Decatur to that point. But to build this road to the Tennessee line, forming a continuous line to McMinnville, thence to Tullahoma, thence to Decatur, and thence to the points to-wit: Selma, Atlanta, Jackson, the city of Louisville would have a direct line of railway encompassing the wealth of those three States, which, to a great degree, is now lost to Louisville, Nashville now receiving most of their products and selling most of the goods to these people.

Just at this point allow me to suggest to the city of Louisville that her commercial inter-

est, her growth and future greatness, depend upon the facilities she may offer to producers to get their staples to her market. Her mercantile interest will be greatly enhanced by commanding the Southern trade that will be opened by the building of these three roads from Decatur South. The only question now for the city of Louisville to determine is, will she furnish the required amount of money to build this branch road from Elizabethtown to the State line, less the sums that will be supplied by individuals and the counties on the line. Should she hesitate to do so, the attention of the friends of this road will be turned at once to Cincinnati. They will not hesitate to work ardently for succor in that direction, with the conviction that that great city will, with this Southern connection, see at once a grand enterprise open for her mercantile and commercial advancement. Should Cincinnati and the Eastern railroads concentrating to that point take it in hand, as I verily believe they will, and subscribe the required amount, less the sum raised by individuals and county stock on the line in Jessamine, Boyle, Lincoln, Casey, Adair and Cumberland, and extend the Kentucky Central Railroad from Nicholasville to the State line, forming the same connection with Decatur, Atlanta, Selma and Jackson, Mississippi, then the city of Louisville will find Cincinnati a more formidable competitor for the Southern trade than she has been for the last half century. Cincinnati will then be in direct communication with the Southern States that are now buying but few goods, except those purchased in this city. The completion of this road to Nicholasville, from the South, will divert all the trade from the Louisville and Nashville Railroad from Georgia, Northern Mississippi, Alabama, East Tennessee and the business also. It remains to be seen whether Louisville will extend to the people living in this portion of Kentucky, Tennessee, Alabama, Georgia and Mississippi, the material aid to build a road that will open the avenues of commerce to them, and allow them and the whole South, through which these several roads will pass, to bring to this market their tobacco, cotton, hemp, wool, hogs, beef and cereals of every kind that are now sent to market, costing the producer one-half the price it brings when sold to get it to market. This is but a brief statement of facts that are now being canvassed by the friends of the road in the counties along the line from Tennessee to this point, and to Nicholasville, the terminus of the Kentucky Central. I am in earnest when I say that one road or the other should be built; that this is an important Southern connection to each city (Louisville and Cincinnati). I confess that I feel it of the highest importance to my friends on this line and to the citizens of Louisville to ask of them to exhibit their liberality in subscribing stock to build this road. If the interest of this city were not involved, it would be selfish to ask of her stock to build a road simply to enhance the value of real estate in the counties, and offer facilities to the citizens living on the line to get to market with their produce. But should this city fail to see that this road will be profitable to her, then a road will be built by the joint efforts and enterprise of the Northern cities and railroads pointing to Cincinnati. The citizens of Cincinnati, holders of the Kentucky Central Railroad, will avail themselves at once of the prospect held out to them and contribute their money to build this road directly across this State, making a connection with the entire South. Cincinnati influence with the Southern mer-

chants will enable her to compete successfully with the cities further North, and will especially draw heavy upon the business of the city of Louisville. She will command her trade in hogs, beef, cattle, hemp and tobacco that she now enjoys so exclusively from the country adjacent to this road, and will sell them their merchandise also. If Louisville should build the road it would be the consummation of her grandest financial achievement to secure this country and its trade; she will have all that she may need to make her one of the greatest cities of the West. She will then have extended her railroads to Cincinnati, to Paducah, to Lexington, to the State line, in the direction of Knoxville, to the State line in the direction of Nashville, Clarksville and McMinnville, leaving no track but one crossing the State line that she does not control, to-wit: from Henderson to Nashville. If impotent to injure the commerce of prosperity in any way, we shall soon test the question in the counties on both of those proposed lines, to-wit: from Nicholasville to the Tennessee line, and from Elizabethtown to the Tennessee line, then make a direct appeal to the cities of Louisville and Cincinnati to help to build one or the other of these roads.

D. R. Haggard.

The Sault St. Marie Canal.

At the Board of Trade yesterday Mr. John Hutchings presented, for its adoption, a memorial to the State Legislature, asking that the Sault St. Marie Canal be transferred to the United States Government, for reasons stated within the memorial, and which we publish below. Mr. Burt, who was the first superintendent of the canal, and who had interested himself in behalf of the much needed improvement, being present, was invited to address the Board relative to the proposed transfer.

He said that all present were doubtless familiar with the early history of the work. The canal was built by a grant of 750,000 acres of land from the General Government, on condition that the State should derive no revenue from tolls, only sufficient being raised thereby to keep it in perfect repair. Petition for money to construct the work had often been refused, and the land grant was only obtained after much difficulty, as the Government was then controlled by different men from those now in power, aid for public works not then being favored as during later years. The banks were weak and insecure, and an enlargement was imperatively needed. In 1856 a joint resolution was passed by our Legislature asking Congress for a grant of money to make the needed improvement, and succeeding like efforts had been made, but all had failed from the fact that it was a State work and not in the hands of the General Government, while the State by its constitution was prohibited from granting any appropriation for this object.

The canal was a great national highway, and as the North-west became more and more settled, an increasing portion of its products would pour through it, seeking the markets of the world. For this reason it should not only be of sufficient proportions, but free as the lakes themselves, or as the improvements upon the St. Clair flats. It lacks 12 or 15 inches in depth of water to correspond with the harbors of the lower lake shores, and hence the necessity of its being deepened to admit the marine of the whole lakes. As it is now, our larger vessels are debarred from

entering into the Lake Superior trade. It should be deepened not only to admit vessels of the largest class that now float upon the lakes, but also to permit the passage of even those drawing a still greater depth, as with the increasing trade of the lakes there is a disposition to build larger vessels.

Estimates of the expense of the proposed improvement had been prepared by him, including an enlargement of the locks submitted to the Governor, and had been approved by him. Mr. Burt hoped the Board would aid in this enterprise as one eminently necessary for the commerce of the lakes and the property of our State.

The memorial was accepted, and upon the question of its immediate adoption quite a lengthy and informal debate arose as to the propriety of such a course. The Board had frequently had reason to regret hasty action upon measures presented heretofore for their approval, without previous notice, and when there was but a slim attendance and a general feeling was entertained that, without expressing any opinion for or against the merits of the measure, the whole matter should be referred to a committee for report upon some future day, after a due notice had been given to the members of the Board. It was finally voted unanimously that such reference should be made. The committee were Messrs. John Hutchings, H. W. Newberry and John Beattie.

The memorials read as follows:

WHEREAS, The history and commerce of the Sault Canal for the last few years has fully demonstrated its inadequacy and inefficiency for the purpose for which it was constructed—to bear the commerce of the Lake Superior country—on account of the insufficient depth of said canal; and whereas, the deepening of said canal is imperiously demanded by the wants of commerce and will cost some \$200,000, which sum the State of Michigan can not and ought not to expend upon this general highway of commerce, open to all the neighboring States as well as to foreign nations; and whereas, application has been heretofore frequently made to Congress for aid to deepen said canal and the same has been refused because said canal is a public work of the State of Michigan; and whereas, the Board of Trade of Detroit have assurances that if said canal is transferred by the Legislature of Michigan to the care and ownership of the United States, that the United States will both deepen said canal and make the same free of tolls to all American vessels; therefore,

Resolved, That this Board respectfully petition and urge the Legislature of the State of Michigan that they will pass an act ceding said Sault Canal to the United States, upon the consideration that Congress shall assume the care and control of said canal and appropriate at least the sum of \$50,000.—*Det. Adv. and Tribune*

The receipts of the Western Union Railroad Company, for the week ending February 21:

	1899.	1898.	Increase.	Decrease.
Freight.....	\$6,336 50	\$6,110 52	\$225 98	.....
Passengers....	3,101 45	2,788 67	312 78	.....
Express & Tel.	350 00	600 00	.....	\$250 00
Mail.....	375 00	375 00	.....	.....
Totals.....	\$10,162 95	\$9,874 19	\$538 76	\$250 00

Receipts from January 1, to February 21:

1899.....	\$75,706 65
1898.....	72,190 90
Decrease.....	\$3,515 15

Broad Gauge not Dead.

In a recent elaborate article on the Erie Railway, *Herapath's Journal* incidentally gives a resume of the result of the broad gauge policy in England, with different conclusions from those ordinarily reached:

A 6 foot gauge, it is asserted, costs no more in working than a 4 ft. 8½ in. gauge, and it is somewhat superior to the 4 ft. 8½ in. as a carrying machine, while it is more popular with the public. *Herapath* thinks that a 6 foot gauge is somewhat too wide, that 5 ft. 3 in., the Irish gauge, or 5 ft. 6 in., the Indian and Grand Trunk of Canada gauge, is the best. Certainly it is that which was selected by England's greatest engineers after the experience they had had with the narrow gauge (4 ft. 8½ in.) English lines.

The English Great Western Company are changing a good deal of their very broad gauge, 7 feet, to the narrow gauge, 4 ft. 8½ in., but why? To gain traffic, to prevent a break of gauge in parts where the break is a serious drawback to interchange of traffic. Should, however, the Great Western narrow gauge to Exeter, work their London and Exeter trains on that gauge, it is a question whether they would not lose traffic. They have now a very large part of the London and Exeter traffic, although their line is considerably longer than the narrow gauge South-Western line from London to Exeter, and the popularity of the Great Western route to Exeter is due to their broad gauge. People like the broad gauge. From hundreds of different passengers *Herapath* has always heard but one opinion expressed, namely, a preference for the broad gauge, and a belief in its greater safety.

As to cost of working, it is the greatest mistake in the world to suppose that a broad is much dearer to work than a narrow gauge. The broad may be somewhat dearer to construct, but not to work, or only by a trifle. What said recently Mr. Woolcombe, the chairman of the South Devon line, 7 feet gauge, where the traffic is by no means remarkably thick, and where the gradients are in some parts very stiff? He said, the working expenses would favorably compare with those of any line in the kingdom, and had averaged during the last four years only 45-19 per cent—a fraction over 45 per cent.

Mr. Fairlie, C. E., has recently clearly and ably pointed out a great cause of the wear and tear of railways, namely, the destruction done by the excessively ponderous locomotives. Now on some of the narrow gauge lines there are quite as heavy locomotives as on the broad gauge, and, moreover, speed as well as weight of engine is an element in the force of the destructive "hammering" of which Mr. Fairlie has so justly, in the interest of railway proprietors, made complaint.

Probably Stephenson was right in determining upon 5 ft. 6 in. as the best gauge, and this he did after all his experience in English railway construction and working; after witnessing for years the operation of the 5 ft. 3 in. Irish gauge.

Herapath thinks certainly that the Erie Railway directors exercise a sound judgment in adhering to their 6 feet gauge, and if they are going to Chicago they should rather broad gauge the length at that end of the line than narrow gauge the much greater length to New York, which would be a heavier work. It would cost them more to complete the inferior 4 ft. 8½ in. gauge than the superior 6 feet gauge.

If the Erie can advertise that they have a broad gauge line all the way from New York

to Chicago, it will in a great measure compensate for the greater distance of their route, and it is about as cheap to work a line of 6 feet gauge as one of 4 ft. 8½ in., all other things being alike. The expense of working is influenced very little indeed by gauge, and even the English very broad gauge is worked at as low a cost as their very narrow gauge. This is a fact, and a grain of fact is worth a bushel of theory.—*Chicago Railway Rev.*

The Great Railroad Max.

The Cleveland *Herald* has the following expose of what the "Railroad Middle" is all about:

"You see the Atlantic and great Pan-Handle Railroad Company having leased the Sharpsburg Cut-off, together with its connections (including of course, its uncles, aunts, cousins, and their connections), so as to control the traffic over the Harrison Pike, it became necessary for the Pittsburg, Fort Wayne & Chicago Railroad to buy up the capital stock of the Hamilton, Indianapolis Central and Little Miami, if they could hope or expect to maintain their hold upon the trade of Licking River and Duck Creek. Another object was to get into the Cleveland Union depot at St. Paul in advance of Alexander Hamilton's stages.

"Then the New York Central (Park) Company, holding a majority of the stock in the Pennsylvania Southern and Northern Alaska R.R., executed a flank movement, by leasing to the stockholders of the Susquehanna & Chesapeake Canal, thereby securing a direct broad gauge route from the Isle of St. Thomas to the foot of Fifth street. This, of course, necessitates the buying up of the Fifth Street Ferry Dock property, or the construction of a bridge connecting the Union base ball grounds with Eden Park—a harmonious blending of the East and West end interests.

"Vanderbilt, who wants to be considered the 'Colossus of Rhodes'—that is to say, of the rail roads—is determined to cut off the Pennsylvania Central from the Northwest. He sent a man up there yesterday to cut it off, but the result is not yet known.

"The Pennsylvania Central immediately turned about and gobbled up the Jack Noble Dug-hill Railroad, and then effected a lease of the old and d—d reliable Cor-du-Roy Railroad, by which move they cunningly monopolize the commerce of Cheviot, forming the only direct line between that flourishing section and the markets of Europe.

"There was considerable excitement at the sale of the Dug-hill road, which took place yesterday. More stockholders voted than were on the books of the company, and, on examination, it was discovered that one was a whip stockholder (a low stage-driver;) another held no stock except an old-fashioned one he wore around his neck; another kept a stock-yard, while a fourth was simply a holder of old stock ale—the heaviest stockholder in the lot. This latter individual was detected, when it was proposed to 'water the stock,' when he howled dismally.

"All that is now needed to complete our brilliant combinations is a railroad starting at the Little Miami elevator and running up Deercreek along the Eggleston avenue to intersect with the affluent pipe and the Millcreek Improvements; thence along Western avenue to the Lunatic Asylum, which will unquestionably be a grand Union Depot at last for all railroad men and those who attempt to comprehend their gigantic railroad schemes."

The Wheat Crop.

From the January report of the Agricultural Department we learn facts in relation to the wheat crop which are interesting. By far the majority of the States of the Union show a diminished yield per acre. This is the case in all the New England States; also in all the Atlantic States south of Virginia. Texas also, and Tennessee reports a smaller yield, whilst New York, New Jersey and Ohio are nearly stationary, with a trifling decrease in yield. Among the States which report favorably are Pennsylvania, which shows an increase in average yield of three-tenths of a bushel per acre; Virginia, four-tenths; Arkansas, with a leap from nine to thirteen bushels; Indiana, Illinois and Wisconsin slight increase, and Minnesota, Iowa and Kansas considerable.

There has been a heavy decline in the prices of wheat over those of last year at this season, of forty-two cents per bushel in New England, fifty-six cents in New York, forty-seven cents in New Jersey, forty-five cents in Pennsylvania, seventy-one cents in Ohio, seventy-seven cents in Illinois, and forty-eight cents in Iowa. The differences are less striking in the Southern States, which is owing to the fact that they grow no cereals for foreign markets and consequently the crops are less liable to fluctuations. The low prices compared with those of last year, in view of the fact of a diminished yield, are only to be accounted for by the falling off in our foreign trade in breadstuffs. The crop of wheat in Europe last year was unusually large, and our dealers are either unable or unwilling to compete in prices with other grain producing countries. As long as the present fluctuations and high prices continue to rule, the bulk of our wheat crop will be confined to home markets.

In regard to the winter wheat crop a private letter from San Francisco says the prospects indicate that a million acres of wheat will be sown in California this year. If no accidents occur the crop will not fall far short of 25,000,000 bushels. In Tennessee and the other border States, the breadth of land seeded is materially increased, while the plant is in a flourishing condition. Intelligence from the great wheat fields of Ohio, Indiana, Michigan and Illinois is to the effect that the appearance of the grain promises an unusually large crop next year. There is still some danger from frost, but it is every day diminishing. The opening of spring with assurance of abundance is seldom followed by disappointment in the summer. Good crops and general prosperity are so closely allied that the latter is almost certain to follow the former. A repetition even of such crops as were gathered last year would do much to repair the wastes of war.

Government lands, certified under existing laws, for railroads and wagon roads, to States and Territories and corporations, to January 30, 1867, amounts, according to a report of the Secretary of the Interior in reply to a Senate resolution, to 21,561,000 acres; for canals, 4,500,000 acres. The quantity certified to the following named States since that date is as follows: Minnesota, for railroads, 670,000 acres; California, for railroads, 26,000 acres; Wisconsin, for wagon roads, 72,000 acres; Oregon, for wagon roads, 19,000 acres; Michigan, for canals, 280,000 acres, making a grand total of 27,000,000 acres.

Gun-Cotton for Blasting Purposes.

It is satisfactory to find that almost the sole remaining obstacle to the general adoption of gun-cotton as a substitute for gun-powder in blasting operations has now been removed. Mr. Abel, of the Woolwich Dockyard Chemical Department, having invented a new primer for the ignition of gun-cotton, which renders that article equal in shattering power to nitro glycerine, whilst the danger inseparable from nitro-glycerine, whatever may be the form in which it is prepared, is altogether absent. Mr. Abel has discovered that the explosive force of gun cotton, like that of nitro-glycerine, may be developed by the exposure of the substance to the sudden concussion produced by a detonation, and that if exploded by that agency the suddenness and consequent violence of its action greatly exceeds that of its explosion by means of a highly heated body of flame. Some remarkable results have already been obtained by exploding gun cotton with a fuse, to which is attached a small detonating charge. Large blocks of granite, and other very hard rock, and iron plates of some thickness, have been shattered by exploding small charges of gun-cotton which simply rested upon their upper surfaces—an effect which will be sufficiently surprising to those who have hitherto believed, as every one has believed, that unconfined gun-cotton was scarcely to be considered as explosive at all. Mining and quarrying operations, with gun-cotton applied in the new manner, have furnished results which have hitherto proved quite equal to those which were obtained with nitro-glycerine, and have shown conclusively that if gun-cotton is exploded by detonation, it is unnecessary to confine the charge in the blast-hole by the process of hard tamping, as the explosion of the entire charge takes place too suddenly for its effects to be appreciably diminished by the line of escape presented by the blast-hole. Thus the most dangerous of all operations connected with mining may be dispensed with when gun-cotton, fired by the new system, is employed. It is considered that this discovery can hardly fail to give a great impetus to gun cotton, and to lead to its universal adoption as soon as its enormous power, when used with the new detonating fuse, becomes known.—*London Mining Journal.*

THE MICHIGAN NORTHERN RAILROAD Co.—

This is the title of a new company just formed under the General Railroad law of the State to construct a road 294 miles in length, extending from a point on the State line, in the township of Sturgis, St. Joseph County, northwards passing through the city of Grand Rapids to Traverse Bay, and thence to the Straits of Mackinaw, the railroad being located in the counties of St. Joseph, Kalamazoo, Allegan, Kent, Montcalm, Newaygo, Mecosta, Lake, Osceola, Wexford, Grand Traverse, Kalkaska, Antium, Emmet and Cheboygan, and to be built with a "T" or continuous rail. The capital stock is fixed at \$2,500,000, divided into 25,000 shares. Eleven Directors are named: R. Gardner, T. P. Sheldon, H. G. Wells, Geo. Goss, Kalamazoo; E. B. Dyckman, Schoolcraft; J. B. Millard, Three Rivers; Samuel Medbury, Detroit; L. H. Randall, Chester Warner, D. G. Clay, Grand Rapids; F. B. Gardner, Chicago. Five Commissioners to receive stock subscriptions are named: H. M. Peck and Henry Breese, Kalamazoo; Sam'l Fuller, H. J. Hollister and W. D. Foster, Grand Rapids. T. P. Sheldon

has been made President of the company, and the following sums paid in, being five per cent on \$1,000 per mile: R. Gardner, \$1,000; Geo. Goss and H. G. Wells, F. B. Gardner and C. Warner, each, \$250; Allen Porter, J. B. Woodburn, Henry Breese, T. P. Sheldon and C. H. Gale, of Kalamazoo, Geo. S. Frost, Samuel Medbury and D. C. Whitcomb, of Detroit, each, \$100; H. M. Peck and J. C. Reed, of Kalamazoo, each, \$50; L. H. Randall, \$30; D. B. Merrill, H. M. Courter and John Parker, of Kalamazoo, E. B. Dyckman, of Schoolcraft, and J. B. Millard, of Three Rivers, each, \$25; D. P. Clay, of Grand Rapids, \$20.—*Detroit Adv. & Tribune.*

A writer in the *Kansas State Journal* thus summarizes the railways of Kansas completed and in course of construction:

"We now have over 600 miles of railway built and in operation, and expect to complete 300 more the present season. First, we have the Kansas Pacific road, running the entire length of the State from east to west, a distance of 400 miles, coursing the productive valleys of the Kansas and Smokey Hill rivers, in the central portions of the State; the Leavenworth, Lawrence and Galveston road, bisecting the Kansas Pacific road at Lawrence, completed and in operation 65 miles, from Leavenworth to Ottawa, and nearly ready for the iron 25 miles farther, to Garnett, the county seat of Anderson county; the Border Tier road, completed from Kansas City to Olathe, and to be finished the present season, to the southern boundary of the State; the Atchison, Topeka and Santa Fe road, under contract to Burlingame, in Osage county, the centre of an exceedingly rich and productive coal district; the Neosho Valley road, under contract and speedily to be completed and intersect with the Galveston road, in Southern Kansas; the Northern Tier road, under contract from Atchison to the northern boundary of the State; the Central Branch Pacific road, in running operation 100 miles west from Atchison. All are insured; all are being built; all, at an early day, will be constructed and will make our young State, in a few years, a second Illinois.

A majority of the original proprietors of the Platte Valley & Pacific Railroad, under a charter granted in 1855, on the 28th ult., organized at Omaha, more than the required shares having been subscribed and per centage paid in. The following directors were chosen for the year: P. R. Sarpy, A. R. Gilmore, O. D. Richardson, E. Lowe, James C. Mitchell, J. B. Stutsman, and John A. Parker.

The following officers were elected: President, John A. Parker; Vice-President, J. B. Stutsman; Treasurer, J. A. Jackson; Secretary, B. R. Pegram.

The Nebraskian says: A spirit of good feeling marked the entire proceedings. It regards the road as second to no other in importance, and expects in two or three years to see the "iron horse" on his march towards the setting sun.

MICHIGAN.—A well attended citizens' meeting was held at Oxford, on the 27th ult., to discuss the feasibility of a road from Detroit to Lapeer by the proposed line of the Northern Michigan or some other. The engineer, Geo. Adair, reported in favor of the route via Oxford, Orion and Rochester, which was some three miles shorter than that via Romeo. Delegates present from five towns to be benefited by the new line promise hearty co-operation and \$190,000 in money.

Emigration last year exhibited marked changes as compared with previous years in the order of its coming. The German arrivals—about 102,000—nearly equaled those from all other countries, while the Irish arrivals were only a little over 47,000—an amount not exceeding that of the English and Scotch by more than 10,000. Of the whole number of immigrants New York kept 67,714; Illinois, 34,625; Wisconsin, 16,537; Ohio over 11,000, and Utah over 3,000, while 2,723 went to Canada. Comparatively few went to the Southern States.

THE CONNELLSVILLE RAILROAD—*The Cumberland Civilian* of last week says that the work on the Conneltsville Railroad is progressing favorably, a large force being employed in the neighborhood of Meyers' Mills, Sand Patch Tunnel, and other points. The fall of 1870 will doubtless see the road in operation along the entire route from Cumberland to Pittsburg.

CHESAPEAKE AND OHIO CANAL—The late good weather has been very favorable for the prosecution of the work of repair on the Chesapeake and Ohio Canal, and by the 20th proximo it is expected the repairs will have been completed. The Alexandria Canal is in excellent condition throughout its whole extent.—*Alexandria (Vt.) Gazette*.

The Fishkill Journal says, that the Dutchess and Columbia Railroad track is now laid from Fishkill Landing to Hopewell, a distance of thirteen miles. The bridges on the same distance are all completed. A locomotive is expected in a few days, when construction trains will be set to work "ballasting up" the track.

The Allegan Journal says the iron on the Kalamazoo, Allegan & Grand Rapids Railroad is laid to Hilliard's Mills, 12 miles north of Allegan, and track is being laid at the rate of a mile a day.

Jackson and Canton Townships, Benton County, have voted a two per cent. tax in aid of the B. B. R. & M. R. R. In the latter township, the vote stood 162 for to 119 against.

The Boston and Albany Railroad has a "railway library."

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It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

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3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 256	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

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J. H. WELLS, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati
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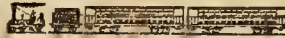
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Arrive West Salem.....	1:50 p.m.	4:53 a.m.
" Leavittsburg.....	4:55 " "	7:35 " "
" Meadville.....	7:35 " "	11:10 " "
" Susquehanna.....	7:48 a.m.	11:29 p.m.
" Paterson.....	2:25 p.m.	6:03 a.m.
" New York.....	3:15 " "	7:00 " "
" Boston.....	5:45 a.m.	4:45 p.m.

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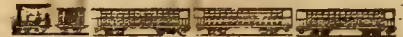
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Apply in Cincinnati at New Depot of Cincinnati, Hamilton
and Dayton Railway; or at northeast corner of Broadway
and Front streets, and at No. 20 Fourth street, nearly op-
posite Post Office. Also at any of the principal Railroad
and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. BUCKER, Sup't.

CENTRAL RAILROAD —OF— NEW-JERSEY.



On and after Monday, May 21, 1866, three Express
Trains will leave New York daily (Sundays excepted) via
Central Railway of New Jersey, and Allentown, leaving
Pier 15, foot of Liberty street, North River, at 7:00 and
9:00 a. m. and 18:00 p. m. On Sundays, one Express Train
at 8:40 p. m.

Passengers by this route save 60 to 130 miles, and Two
Hours' Time over other Lines, with but one change of
cars to Chicago or Cincinnati, and but two to St. Louis.
Passengers from the East by Sound Boats or by Rail in the
morning, will have time for Breakfast before leaving the
City. Fares always as low as by other Lines.
State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)
7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives
at Harrisburg 2 p. m., Pittsburg 12 night
9:00 a. m.—MORNING EXPRESS, for the West. This
train leaves New York Two Hours later than other Lines,
and arrives at principal places West at the same time.
12:00 m.—WAY TRAIN, connecting at Easton with
Lehigh Valley Railway to Mauch Chunk; at Reading with
Philadelphia & Reading Railway for Pottsville, arrives at
Harrisburg at 8:40 p. m. Without change of cars from
New York to Harrisburg.
8:00 p. m.—EVENING EXPRESS, for the West with
but one change to Cincinnati or Chicago, and but two to
St. Louis. This train leaves New York Two Hours later
than other Lines, and arrives at principal places West at
same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

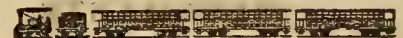
9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives
at New York at 6:00 a. m. next day.
3:00 a. m.—EXPRESS TRAIN, from the West, leaving
Pittsburg at 4:20 p. m.; passes Harrisburg at 3:00 a. m.;
Reading at 4:49 a. m.; Allentown at 6:00 a. m.; Easton at
7:09 a. m. Through cars from Pittsburg to New York.
9:05 a. m.—FAST LINE, from the West, leaving Pitts-
burg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Read-
ing at 10:52 a. m.; Allentown at 12:42 p. m.; Easton at
1:10 p. m. Through cars from Pittsburg to New York.
7:25 a. m.—WAY TRAIN, from Harrisburg, passing
Reading at 10:40 a. m.; Allentown 12:20 p. m.; Easton
at 1:35 p. m. Through cars from Harrisburg to New York.
Arrives in New York at 5:20 p. m.
2:10 p. m.—FAST MAIL, from the West, leaving Pitts-
burg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Read-
ing at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at
7:20 p. m. Through cars from Harrisburg to New York
Arrives in New York at 10:45 p. m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7:00 A. M.	9:10 A. M.
Springfield & St. Joseph Ex.....	12:00 P. M.	4:30 P. M.
St. Louis & Chicago Ex.....	4:55 P. M.	12:15 A. M.

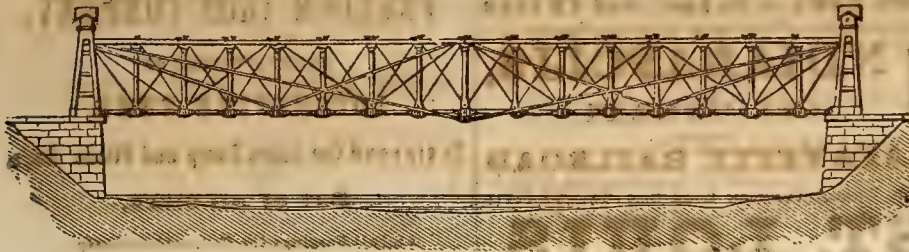
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Ac- commodation.....	5:15 P. M.	5:05 A. M.
Harrison Accommodation.....	10:10 A. M.	2:25 P. M.

Through Tickets can be obtained at the Burnett House,
Spencer House and Gibson House Offices; also at the
Depot. The Passenger Depot of the Indianapolis & Cin-
cinnati Railroad is within a few squares of all the pri-
cipal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD, Gen'l Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE.

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1302.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and railroad work to be done. By these means the maximum usefulness of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and construction of all the details. Our long experience and opportunities of obtaining information enable us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings, every description of Copper, Sheet Iron and Boiler Work, and every article appertaining to the repair or renewal of Locomotive Engines.

KNOX & SHAIN,

ENGINEERING & TELEGRAPHIC

INSTRUMENT MAKERS

Philadelphia, Pa.

W. M. F. HEWSON,

STOCK BROKER,

31 WEST THIRD STREET, CINCINNATI.

Buys and sells Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collection

AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

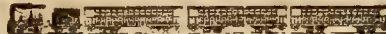
Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
8. E. Cor Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburgh without Change.

THE PITTSBURGH, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads still continues to transport produce and merchandise between Cincinnati and Pittsburgh, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent,
myll Pittsburgh, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

[WITH

Productive Wells all

around them.

FOR SALE BY

T. WRIGHTSON

167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

Railroad, Car and Machine Shop

SUPPLIES,

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
3-0 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of
ELLIPTIC AND SEMI-ELLIPTIC
SPRINGS,

Made at his Shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.
All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.

Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR
Railroad Cars
and
Locomotive Engines.

ORDERS executed promptly to tent for the celebrated Wheels, either single or double ply with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner the shortest notice, and on the most reasonable

PASSENGERS

Purchasing Tickets via

Baltimore & Ohio R.R.

-TO-

BALTIMORE,**PHILADELPHIA,****NEW YORK, and****BOSTON,**

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON

Fare to Washington City same as to Baltimore.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
JNO. W. BROWN, General Passenger Agent.

} Dec. '87.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; or at the new House Office, corner Vine and Baker streets, and at the respective depots. East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.

Omnibuses call for passengers.

JANUARY 5th, 1868.**Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	6 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cincinnati,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine street; Corner Front and Broadway (and at Depot, Foot 1 Mill Street.

C. E. FOLLET Gen. Passenger Agent
J. W. CONLOGUE,
General Superintendent.

Best Route to St. Louis and Chicago

INDIANAPOLIS, CINCINNATI —AND— LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS, CAIRO, CHICAGO,

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West, North-west and South-west.

5 THROUGH TRAINS DAILY, (Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express.....	7:00 am	10:50 pm
Indianapolis and Cairo Express.....	6:30 am	2:30 pm
Cairo and St. Louis Express.....	3:00 pm	4:08 pm
Springfield, Quincy and St. Joseph Express.....	3:00 pm	4:08 pm
Chicago Lightning Express.....	6:50 pm	11:30 am
St. Louis Lightning Express, Sunday instead of Saturday night.....	11:00 pm	6:15 am

No change of cars between Cincinnati, St. Louis and Chicago.

	Leave	Arrive.
Lawrenceburg Accommodation.....	10:40 am	8:35 am
Harrison.....	9:30 pm	9:15 am
Lawrenceburg.....	4:45 pm	2:00 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

MOSELEY'S WROUGHT IRON ARCH BRIDGES.

AND

CORRUGATED IRON ROOFS

ARCHED AND FLAT.



CORRUGATED SHEETS, OF ALL SIZES, CONSTANTLY ON HAND, PAINTED, AND READY FOR SHIPMENT, WITH INSTRUCTIONS FOR APPLYING THEM.

MOSELEY & CO.
Boston, Mass.**EDWIN J. HORNER,**

Successor to

McDANIEL & HORNER,

Locomotive and Railroad

CAR SPRING MANUFACTURER,

Wilmington, Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engines and Car Axles, Pump and Piston Rods,

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn**JOHN A. WRIGHT, Sup't.**

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works June 9

THE SCHENECTADY LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.,

Continue to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING LOCOMOTIVE ENGINES

AND OTHER

Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding their work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.**PASCAL IRON WORKS.**

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1½ to 24 inches in diameter, and branches for same, &c., Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. F. M. TASKER
HT. G. MORRIS.

Philadelphia, Wilmington & Baltimore RAILROAD!



FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS.—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD,
T. WRIGHTSON. } Editors

CINCINNATI:

THURSDAY, MARCH 4, 1869.

THE RAILROAD RECORD,

PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.	
One square, single insertion.....	\$ 1.00
“ “ per month.....	3.00
“ “ six months.....	12.00
“ “ per annum.....	20.00
“ column, single insertion.....	5.00
“ “ per month.....	10.00
“ “ six months.....	40.00
“ “ per annum.....	80.00
“ page, single insertion.....	25.00
“ “ per month.....	55.00
“ “ six months.....	110.00
“ “ per annum.....	200.00

Cards not exceeding four lines, \$5.00 per annum.

WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	
Columbus Accommodation.....	3:55 P. M.	10:35 A. M.
Morrow Accommodation.....	5:10 P. M.	8:00 A. M.
Lightning Express.....	8:30 P. M.	10:40 P. M.
Night Express.....		7:30 A. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillsboro Accommodation.....	3:45 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:50 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.).....	7:00 A. M.	7:00 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Toledo, Detroit & Canada.....	7:10 A. M.	10:45 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Lima, Ft. Wayne & Chicago.....	7:10 A. M.	10:45 P. M.
do do do.....	2:30 P. M.	5:10 P. M.
do do do.....	7:10 P. M.	7:00 A. M.

Sandusky, Cleveland & Buffalo.....	7:10 A. M.	7:40 P. M.
do do do.....	5:45 P. M.	10:25 A. M.
Cornersville & Indianapolis.....	7:10 A. M.	10:45 P. M.
do do do.....	2:40 P. M.	5:10 P. M.
do do do.....	5:00 P. M.	10:45 A. M.

Hamilton, Eaton & Richmond.....	7:10 A. M.	10:45 P. M.
do do do.....	5:00 P. M.	10:25 A. M.
Hamilton Accommodation.....		8:05 A. M.
do do do.....		6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

Cornersville, Rushville and Indianapolis Mail.....	7:00 A. M.	10:45 P. M.
St. Louis, Indianapolis & Cornersville & Rushville Express.....	2:30 P. M.	5:10 P. M.

Cambridge City and New Castle.....	7:00 A. M.	10:45 A. M.
Cambridge City and New Castle, Express.....	5:00 P. M.	10:45 A. M.

CINCINNATI, SANBUSHY & CLEVELAND.

Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	7:20 P. M.
New York Express.....	8:00 P. M.	10:40 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	6:30 A. M.
Springfield Express.....	3:00 P. M.	4:20 P. M.
St. Louis Express.....	11:00 P. M.	1:10 A. M.
Lawrenceburg Accommodation.....	10:40 A. M.	2:35 P. M.
do do do.....	4:30 P. M.	8:30 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	4:20 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:35 A. M.
Harrison Accommodation.....	5:10 P. M.	7:37 A. M.
Chicago Night Express.....	9:10 P. M.	10:12 P. M.

OHIO AND MISSISSIPPI.

St. Louis, Cairo & Louisville (Sundays excepted).....	7:50 A. M.	12:10 A. M.
Louisville Special Train (Sundays excepted).....	4:25 P. M.	11:45 A. M.
Louisville, St. Louis & Cairo Daily Express.....	7:10 P. M.	6:00 A. M.

ATLANTI AND GREAT WESTERN RAILWAY.

Lightning Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	7:10 P. M.	7:00 A. M.

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

Mr. Blake's Report on the Precious Metals.

Mr. WILLIAM P. BLAKE, Mineralogist and Geologist, was appointed by the State of California, a Commissioner to the Paris Exposition. At the Exposition were exhibited metals from every portion of the globe, and especially samples of all precious metals. Intelligent persons were there also from all countries; so that there were means of getting accurate information on all the merits and products of precious metals. He availed himself of these advantages to obtain more useful statistics on this subject, than has heretofore been had anywhere. Although Mr. Blake's Report is not strictly a Government Report, it is issued under the auspices of the State Department, and is the most valuable and interesting document recently given to the public. It is full of useful matter and valuable statistics. We shall give from time to time some of its information, digested in brief form.

Mr. Blake begins with a precise, accurate account of the localities and productions of the gold mines of the Pacific coast. This occupies 50 pages of his report, and is given with a minuteness and particularity which was heretofore unknown, and is therefore very useful; but, as we know the general results, we shall pass to an account of some regions not generally known.

MINES OF NOVA SCOTIA.

These are generally unnoticed, and we suppose, known by but few. Below is the official account of these products.

Dr. Hunt says:

"It is impossible to determine with precision the total amount of gold obtained from the mines of Nova Scotia since their discovery. The Department of Mines was not organized until 1862, and it was not until the following year that complete returns were obtained. From this it results that no accurate estimate can be given of the amounts of gold obtained in 1860, 1861, and 1862, though they are supposed to have been not inconsiderable. The official returns for the last six years, based on the gold from which the royalty of three per cent. has been paid, are as follows:

	Ounces.
1862.....	7,275
1863.....	14,001 $\frac{3}{4}$
1864.....	20,023
1865.....	25,454 $\frac{1}{2}$
1866.....	25,214 $\frac{1}{2}$
1867.....	27,583
Total.....	119,541 $\frac{1}{2}$

"The value of the above amount of gold, at the government price of \$18 50 the ounce, is \$2,211,508; but at \$20, which is about the worth of \$2,390,830.

In the last Government Report on "COMMERCIAL RELATIONS," we find a more particular report, which we insert here:

Statement showing the number of gold mines worked, average number of the men employed, number of crushers engaged, quantity of quartz raised, quantity of quartz crushed, average yield per ton, total yield for year, with the average yield per man per day, for the year ended September 30, 1867.

Number of mines worked.....	67
Average number of men employed.....	668
Number of crushers—	
Steam.....	27
Water.....	8
Total number of crushers.....	35
Quantity of quartz raised.....	37,169
Do.....	7
Amount of quartz crushed.....	30,673
Do.....	11
Average yield per ton.....	16
Do.....	16
Total yield for year.....	27,563
Do.....	6
Do.....	9
Average yield per man per day.....	\$2 44
Yield of gold—	Ozs.
1866.....	24,162
1867.....	27,563
Increase.....	3,401

Mr. Blake then proceeds to give the production of the United States gold for 1867, which is thus presented:

One-third of the value of the Comstock bullion and a little over one-fifth of the value of the Idaho production is regarded as gold.

BULLION PRODUCTION OF THE UNITED STATES AND TERRITORIES IN 1867.

States and Territories.	Value of gold bullion.	Value of silver bullion.	Total value of bullion.
California.....	\$25,000,000		\$25,000,000
Nevada.....	6,000,000	\$12,500,000	15,500,000
Oregon & Washington.....	3,000,000		3,000,000
Idaho.....	5,000,000	1,800,000	6,800,000
Montana.....	12,000,000		12,000,000
Arizona.....	500,000		500,000
New Mexico.....	300,000		300,000
Colorado.....	2,000,000	500,000	2,500,000
Utah, Appalachin, and other sources not manifested.....	2,700,000		2,700,000
Totals.....	\$56,500,000	\$14,500,000	\$71,000,000

We shall not pursue the accounts of all the gold districts in detail; but we give the following view of the Victoria Mines, as an example of the most abundant gold bearing districts outside of the United States:

Later returns received since the foregoing was written state the yield of Victorian gold for 1866, as 1,480,597 ounces, and for 1867, 1,392,336 ounces, and for other years as follows, differing slightly, as will be seen, from the amount given for corresponding years in the preceding table:

Year.	Ounces.	Value at \$19 04
1863.....	1,627,066	\$30,984,33
1864.....	1,545,450	29,425,30
1865.....	1,556,088	29,679,96
1866.....	1,480,597	28,190,56
1867.....	1,392,366	26,510,07

By adding the value of the production for 1866 and 1867 to the estimate of the total value up to 1866, viz., \$141,144,160, we have \$760,000,000 as approximately the total production of Victoria to the present time.

The gradual diminution in the export since 1862 will be observed. A writer in Dicker's Mining Record, says:

"It has been the custom to attribute this falling off in the yield of the gold fields to a decrease in the number of miners, who, for various reasons, have embarked in other pur-

suits, and permanently forsaken the gold fields. The returns of the number of miners employed throughout the year would seem to bear out this view. In 1865 the number of miners employed throughout the year was 83,214; in 1866, 73,557; and in 1867, 65,857; a reduction as between 1865 and 1867 of 17,357 miners. The decrease has been alike gradual among miners employed in alluvial and quartz workings. In 1865 the number of alluvial miners was 62,131; in 1866, 55,916; and in 1867, 51,719. The number of quartz miners in 1865 was 17,326; in 1866, 14,878; and in 1867, 14,138. Whether this reduction will prove continuous is a matter for conjecture. The spirit of speculation in regard to mining adventures indicates that capital is forthcoming whenever there is legitimate occasion for its use, and recent events at Ballarat tend to encourage the belief that there is yet an almost inexhaustible treasure remaining in the soil."

Let us now notice the Russian gold mines, their mines were known to Herodotus; but were re-discovered by Peter the Great, in 1744. For several years, they have produced near \$20,000,000 per annum. The following is the table of products given by Mr. Blake:

TOTAL PRODUCTION OF RUSSIAN GOLD MINES
TO 1864.

Years.	Kilograms.	Value in francs.	Value in dollars.
1745 to 1810.....	25,537,000	85,191,720	17,038,944
1810 to 1825....	16,435,000	54,470,448	10,896,089
1825 to 1840....	271,521,000	875,492,312	175,093,462
1840 to 1855....	167,633,708	539,518,128	117,903,625
1855 to 1860....	119,411,500	385,030,440	77,006,098
1860.....	23,891,800	77,133,712	15,425,742
1861.....	23,870,000	77,063,944	15,412,788
1862.....	13,946,300	47,275,660	9,455,132
1863.....	23,920,000	77,228,448	15,445,680

Total..... 696,167,208 2,248,767,812 \$499,753,562

This exhibits a total production of 696,167 kilograms from 1745 to 1864, a period of 119 years; valued at 2,248,767,812 francs, or, at five francs to a dollar, \$449,753,562. The average value of the annual production for the last four years given in the table is \$15,335,088. It is reported, however, that the production is now increasing; and that in 1864, it was nearly "23 tons," and in 1865, "over 26 tons." It may, therefore, be safely estimated that the total production of gold in Russia up to the year 1868, was over \$525,000,000, stated in round numbers.

Mr. Blake gives the gold production of the world, as follows:

United States.....	\$56,500,000
British Possessions.....	2,560,000
Mexico.....	1,000,000
South America.....	5,300,000
Australia.....	37,500,000
Russia.....	15,000,000
Residue of the World.....	12,270,000

Total annual production of gold, \$130,130,000

This is gold only. In this account we find only what may be known *statistically*. It is our conviction, that the real production of gold is much larger.

It is impossible to get an accurate view of the gold production of Asia and Africa. These were the gold countries of antiquity, and certainly the ancients did not want for gold or silver. It is true, that their commerce did not demand as much money as our modern commerce, resulting from such innumerable

arts. But, in the time of Abraham, there was "current money of the merchant." In Athens there was gold coin; and Persia and India were represented as overflowing with gold and ornaments, and luxury and magnificence. We can not read these descriptions without feeling that gold must have been nearly as common as it is now. Whence did it come from? It must nearly all have come from regions, which are now represented as producing very small quantities. The vast fields of North America and Australia were then unknown. We are persuaded, therefore, that the amount of gold in the earth, and probably the amount produced is vastly greater than is represented by Mr. Blake, or any of the gold staticians. In confirmation of this, let us look at the immense regions of gold producing fields in America. One only needs to look over Mr. Blake's Report to see that gold is actually found in the whole primitive region of America. In the limestone and sandstone formations, it probably is not found; but, all the mountain ranges, and probably the whole Northern part of America afford gold. If we consider, as we do, that the whole mountain range of South, as well as North America is one in character, it is beyond doubt a gold bearing range throughout its whole extent; and, it seems from what we now know, that gold is likely to become more abundant as we go North. Looking over Mr. Blake's statements, we find that gold is found successively in California, Nevada, New Mexico, Idaho, Colorado, Montana, Oregon, Washington, British Columbia, Canada and Nova Scotia. In all these districts, gold mining has been profitable. Gold, therefore, in North America seems almost exhaustless. The real question will be, at last, whether gold mining is as profitable as other employments. If it is mining will go on, and the products increase, in spite of all speculation to the contrary. Our conviction is, that gold has very sensibly depreciated; and that it must go on depreciating, till the mining of gold becomes unprofitable, in which case the mining will gradually diminish till the balance between labor and gold is restored.

In another article, we shall continue this discussion and take a view of silver production.

MUSIC.—We have received from John Church, Jr., two sheets of music. First—"The Day of Rest," a sacred song by Clari-bel, a solemn and beautiful piece, capable of touching power, and worthy the efforts of the gifted author. Second—"The Velocipede Gallop," by Henry Atkins, a lively, dashing piece, equal to all the gyrations and rapidity in execution upon the piano that its bicycle synonym is upon the road. There are some exquisite notes in this sheet, and the arrangement is most happily in harmony with the suggestions aroused by the name that heads it.

THE KNICKERBOCKER.—The rapid progress of life assurance in this country is among the wonders of this go-ahead age, and an evidence of the great power of well conducted association of brains and capital. One of the most remarkable evidences of these facts, is the growth of the company named at the head of this article, which the following brief exhibit, made up from official reports, proves.

Organized in the year 1853, at a time when older companies had gathered sufficient strength to crush out any ordinary competitor, it started into the contest armed with correct business principles and the well established integrity of its managers, and, against the most fearful odds, won its way gradually to its present proud and secure position.

In 1868 it issued new policies to the number of 10,722, insuring thereby the sum of \$33,073,621, and increasing its assets to \$5,170,000.

It has promptly paid losses to the amount of \$1,200,000.

It has declared as dividends to policy holders the sum of \$583,000.

Its entire premium receipts have been \$4,074,522.

In New York City, where its great rivals have their headquarters and this company is the least known, one agent, during the year 1868, obtained 494 new policies, insuring \$2,055,650, and receiving premiums therefrom of \$71,315.

This little abstract speaks volumes in behalf of this organization, and needs but to be well studied to commend the "Knickerbocker" to all who seek the great benefits of life insurance, where safety and profit are combined.

SOMETHING EXTRA FOR BOYS AND GIRLS.—It is well known that THE LITTLE CORPORAL, the brilliant Western Juvenile, has a larger circulation than any other Juvenile Magazine in the world. This has been gained by real merit and enterprise. The Publishers are endeavoring to double their immense circulation this year, and have determined to send their Magazine FREE FOR THREE MONTHS—January, February and March numbers of 1869—FREE to every family who will send their address before the first of May, with four cents in stamps for return postage. These are intended as samples to those who are not now taking the Magazine in its new enlarged form. Address ALFRED L. SEWELL & Co., Publishers, Chicago, Ill.

DISCOVERY OF IRON ORE.—The *Hanover Spectator* says that rich deposits of iron ore have recently been discovered in Heidelberg Township, York County, a short distance from that town. The ore is said to be of superior quality and lies very near the surface. Other discoveries of iron ore have been recently made in that section of country.

**The Pennsylvania Railroad Company's
Twenty-second Annual Report.**

OFFICE PENNSYLVANIA RAILROAD COMPANY,
PHILADELPHIA, February 10, 1869.

To the Shareholders of the Pennsylvania
Railroad Company:

The Directors have the gratification to report to you the results of another year of prosperous business upon your railway, the details of which are shown in the following statements:

EARNINGS.

From passengers.....	\$3,531,903 94
" emigrant passengers.....	78,244 29
From mails.....	99,981 25
" express matters.....	291,881 21
From general freights.....	12,882,165 30
From miscellaneous sources.....	349,321 32
	<u>\$17,233,497 31</u>

EXPENSES.

For conducting transportation.....	\$3,609,233 18
For motive power.....	3,361,694 42
For maintenance of cars.....	1,442,735 90
For maintenance of road.....	3,268,896 46
For general expenses.....	178,423 92
	<u>11,860,983 88</u>

Leaving net earnings for the year 1868.....\$5,372,513 43

The total amount of revenues compared with last year is:

1868.....	\$17,233,497 31
1867.....	16,340,156 36
Increase.....	\$893,340 95

The changes in the sources of the revenue are shown below:

Decrease in emigrant passengers.....	\$43,408 97
Decrease in express matter.....	38,613 39
Decrease in miscellaneous.....	124,707 22
	<u>\$209,629 58</u>

Increase in regular freights.....	\$1,049,865 63
Increase in first-class passengers.....	35,155 33
Increase in United States mails.....	15,049 57
	<u>1,100,070 53</u>

Increase, as before stated.. \$893,340 95

The gross revenues for 1868 are equal to \$48,138 26 per mile, of the main line of the railroad.

The whole number of passengers carried in 1867 was 3,347,466, and in 1868 3,747,178—an increase of the number carried of 399,712. The average distance traveled by each passenger was 35.54-100 miles, being 2.27-100 miles less than in 1867, showing this increase to be upon the local traffic of the line.

The number of tons of freight moved (including 294,131 tons of fuel and other materials transported for the company) was 4,722,015, embracing 2,065,049 tons of coal. The whole tonnage of your railway exceeds that

of last year, 721,477 tons, of which increase 384,326 tons was bituminous coal.

The average charge upon freights during the year was 1.906 1000 cents per net ton per mile, and per passenger 2.71-100. The cost of transportation was 68.8-10 per cent. of the receipts.

The earnings of the Philadelphia and Erie Railroad in 1868 are:

From passengers.....	\$631,437 59
" freight.....	2,101,613 98
" express matter.....	30,954 33
From mails.....	21,518 04
From miscellaneous sources.....	18,726 42
Total (nearly equal to \$10,000 per mile of road).....	<u>\$2,804,250 36</u>

The operating expenses during the same period were:

For conducting transportation.....	\$610,774 42
For maintenance of way.....	600,284 40
For motive power.....	677,028 49
For maintenance of cars.....	178,913 85
	<u>\$2,067,001 06</u>

To which add 30 percent. of earnings, payable to the Philadelphia and Erie Railroad Company..	820,423 95
	<u>2,887,125 01</u>

Showing a loss to this company in operating the line under the lease of.....\$83,274 65
Or \$271,177 78 less than in 1867.

To the loss above stated there should be added—to give a fair exhibit of the workings of the lease of this line—the interest upon the capital required to operate the railway, the cost of the rolling stock and shop machinery, all of which is furnished by this company, amounting, at six per cent., to \$210,000 per annum.

The increase in the business of the line is almost wholly from the development of the freight traffic of the company.

The decrease in the relative expenses arises mainly from the diminished outlays on account of the original incomplete and defective construction of the road.

The revenues of the lines operated by this company, and the amounts paid for their working expenses, interest and dividends, are as follows:

From the Pennsylvania Railroad and branches.....	\$17,233,497 31
From the Philadelphia and Erie Railroad.....	2,804,250 36
Amount.....	<u>\$20,037,747 67</u>

And the expenses of operating these lines were:

Pennsylvania Railroad.....	\$11,860,983 88
Philadelphia & Erie Railroad.....	2,067,001 06
Thirty per cent. reserved to pay interest on debts of the Philadelphia and Erie Railroad Co..	820,423 95
	<u>14,748,408 89</u>

Leaving the net profits from both railways for 1868.....5,289,338 78

From which deduct dividends declared in May and November, in all 13 per cent., with the taxes thereon.....3,242,289 99

Balance to debit of interest account.....701,610 84

Due on the lease of the Harrisburg and Lancaster R. R...135,274 18

Annual payment to the State of Pennsylvania on account of interest and principal due upon the purchase of her works between Pittsburg and Philadelphia. 460,000 00 4,539,167 01

Leaving balance.....\$750,171 77

The average dividends of the company since 1860 have been fully equal to that paid in 1868.

All of the branch and leased lines operated by this company, except the Philadelphia and Erie, and the East Brandywine and Waynesburg Railways (where the aggregated loss was \$88,105 84) have shown balances in their favor over operating expenses, equal in the aggregate to the interest upon the amounts standing upon the books against them.

The earnings of the railways in which the Pennsylvania Railroad Company is the holder of a majority of their shares, but operated under their own Boards of Directors, were for the past year as stated below:

Cumberland Valley Railroad.....	\$557,064 72
Northern Central Railroad and its leased lines.....	4,151,351 91
Pittsburg, Cincinnati and St. Louis Railway.....	2,327,455 43
	<u>\$7,055,872 06</u>

The Cumberland Valley Railroad extends from Harrisburg to Hagerstown, Maryland, a distance of seventy-four miles. It is a very important feeder to your main line, and traverses throughout its length a wide and densely populated valley, rich in agricultural resources, and bounded on either side by mountain ranges containing some of the most valuable mines of iron ore in the State, of inexhaustible extent. These mines are now being developed, and when reached by the branch railroad in course of construction, the transportation of these ores will add largely to the net revenues of the company.

The interest of your company in this railway is held by its sinking fund, and consists of 9,418 shares of the common and 2,864 shares of the preferred stock, upon both of which, amounting at par to \$614,100, it pays regular dividends of eight per cent. per annum, leaving a surplus which is being appropriated in aid of the construction of the branch line mentioned to the largest of these iron ore deposits, and toward the extension of its own line to the Potomac, at or near

Williamsport, Maryland. The Northern Central Railroad extends from Baltimore to Sunbury, Pennsylvania, a distance of 138 miles, and through leases of and contracts with other railway companies it is practically extended to Buffalo, New York. Its control by this company was the result of an unsuccessful effort upon the part of the Baltimore and Ohio Railroad Company to shut up this avenue as a competitor with its own railway for transportation between Baltimore and the West.

Instead of a burden to the Pennsylvania Railroad Company, as apprehended at the time, a purchase of a majority of its shares was made by the sinking fund, it has proved a very profitable investment. After placing this work in good condition, and increasing its equipment, it has been able to pay regular quarterly dividends to its shareholders at the rate of eight per cent. per annum after leaving a reasonable surplus of net profits. The number of shares of this company held by the sinking fund is 43,614, equal at their par value to \$2,180,700.

The ordinary traffic of this line has increased with the population of the wealthy and enterprising section of country it accommodates, while its coal transportation, which is still in its infancy, has become a very important source of revenue. It has connections through a lease of the Shamokin Valley and Pottsville Railway, the control of the Lykens Valley Railway, and a connection with the Philadelphia and Erie, Lackawanna and Bloomsburg and other railways, with all of the coal fields of Pennsylvania, which will continue to give it a constantly increasing tonnage. The Pittsburg, Cincinnati and St. Louis Railway has been described in previous reports. It extends from South Pittsburg to Columbus, Ohio, a distance of 193 miles. The interest held by this company in their stocks and bonds stands upon its books at \$5,633,450 09. It is an indispensable connection for the Pennsylvania Railway with the West and Southwest, and must eventually pay reasonable dividends to its shareholders.

Its traffic for the second year of its use as a continuous railway between its termini is equal to \$12,000 per mile of road.

In the connecting railway, which extends from West Philadelphia to Frankford—a distance of seven miles—and operated under a lease by the Philadelphia and Trenton and Camden and Amboy Railroad Companies, at an annual rental equal to six per cent., clear of all taxes, upon its whole cost, the Pennsylvania Railroad Company holds: 25,547 shares of the capital stock, amounting to \$1,277,350.

This road was constructed with means furnished by your company for the purpose of decreasing the heavy cost of passing its New York and Eastern trade through this city, and in the expectation of returning to the Philadelphia division of its road much of the trade and travel which the delays and obstructions referred to had driven to other channels. The result, as shown in the eighteen months since the road was opened for traffic, has been such as we anticipated, while, in addition thereto, we will receive during the term of the lease legal interest upon the expenditure incurred.

The canals east of the Allegheny mountains, purchased by this company of the State of Pennsylvania, 173 miles in length, have, as stated in our last annual report, been sold to the Pennsylvania Canal Company, of which General Isaac J. Wistar is President. That company has since purchased with its first

mortgage bonds a majority of the shares of the West Branch Canal Company, extending from the Juniata river up the Susquehanna and its west branch to Farrandville, above Lock Haven—123 miles—and has consolidated its shares with those of the Wyoming Valley Canal Company, which occupies the north branch of the Susquehanna, from Northumberland to Wilkesbarre, a distance of sixty-four miles, making in all 360 miles of canal. This arrangement brings the Susquehanna system of State canals below their coal measures—dismembered by their sale to three companies—under one control, without which they could not successfully compete with the railways traversing the valleys of the same water courses. The whole of the revenues of these canals must for a few years be appropriated to their improvement and protection from freshets that have heretofore periodically destroyed their usefulness for months at a time, to the great injury of their revenues and the business of those who use them for the transportation of the products of the country to market. When these are secured, the investment of this company in the Pennsylvania Canal Company will doubtless become profitable, and highly advantageous to the community for whose accommodation they were originally built by the Commonwealth.

The assets of this company—exclusive of its own roads—invested for the protection and enlargement of its traffic, are now, at a reasonable valuation, more than sufficient to meet the whole indebtedness of the company, except the five per cent bonds held by the State of Pennsylvania, which are being paid by a contribution from the net revenue of the company in semi-annual payments of \$230,000 each. During the past year these contributions, after the payment of interest, left \$142,978 50 to be appropriated to the reduction of the principal, which amount will annually increase as the debt upon which interest is payable is reduced.

In the month of October last an attempt was made by the Erie and New York Central Railroad Companies to break up the through traffic arrangement of this company by making large reductions upon their freight charges. This movement was promptly met by the Pennsylvania Railroad Company by still greater reductions from time to time, which resulted in a large increase in its tonnage. These low charges were continued until a restoration of former rates was desired by those companies, after incurring a heavy loss in their revenues, while the effort increased the prestige of this company by bringing its shorter lines and better facilities more prominently into public notice. After the failure of this attempt the managers of the Erie Company, by means of large sums of money, suddenly realized from a confiding public, in a manner, at least, unworthy of imitation, disregarding the comity which should exist in the relations between individuals or officers of corporations, and against popular sentiment and public rights, endeavored to arrest a healthy competition for the traffic between the East and West through the control of our connecting lines, and by this means divert business from its natural channels to their circuitous route to the seaboard.

The policy of your Board has heretofore been to limit its investments outside of Pennsylvania to those companies that they originally deemed it proper to assist, for the purpose of securing connections with the then existing lines, whose interests harmonized with its own. The restless spirit of our rivals in the East and West have, however,

rendered it necessary to make our connections with the chief trade centers of the West more perfect and less liable in the future to molestation and interruption. This has been done to a great extent through a recent lease to the Pittsburg, Cincinnati and St. Louis Railway Company (known as the Pan Handle route), guaranteed by this company, of the lines of the Columbus, Chicago and Indiana Central Railway Company, which has direct connections with Indianapolis, St. Louis, Louisville and Chicago.

These arrangements will require a considerable amount of money to be applied, especially to the increase of rolling stock, to render them productive. This it is proposed to raise by giving to the stockholders of the Pennsylvania Railroad Company, registered upon the books of the company on the thirtieth day of April next, the privilege of subscribing to twenty-five per cent. of their holdings at that time, in new shares at par.

With the proposed increase of capital the Board entertain no difficulty in continuing dividends of ten per cent. per annum, even if these arrangements should not, as anticipated, increase our net profits to a greater extent than the interest upon the outlays to be incurred.

It will appear, from an examination of the statements already given, that the business of the past year would have justified dividends of five per cent. semi-annually upon our whole authorized capital of \$35,000,000, and still have a surplus of a half of a million of dollars. The proposed increase will make the capital stock about \$32,050,000.

The rapid progress made by the Union and Central Pacific Railroads indicates the completion of a railway line across the continent during the ensuing summer. When it shall have been opened throughout, your own road and its immediate Western connections present the shortest line to and from the Atlantic seaboard, either by way of Chicago, St. Louis, or by an intermediate route from Warsaw westward, connecting with the Union Pacific road near Fort Kearny, and assure us that we will be enabled to secure a fair and reasonable share of the large traffic that will be carried between the Atlantic and Pacific States. By some oversight, local considerations, or a limited conception of the important part that railways were to play in the movement of the internal commerce of the country, Pennsylvania and Ohio have each been placed between two different railway gauges, which, for a long time, forced transshipment of freights. The Pennsylvania Railroad Company has, both on its Eastern and Western connections, a gauge of four feet ten inches, and Ohio on each side of her a gauge of four feet eight and a half inches—the latter being the prevailing gauge north of the Ohio and James rivers, while south of these the gauge of five feet prevails, which should have been adopted originally as the uniform gauge of the United States.

To obviate the inconvenience, the increased cost of transportation and the additional capital required to move traffic, in consequence of these frequent transshipments, from a difference of gauge of only one and a half inches, broad tread wheels were introduced for through traffic, which, to a large extent, has overcome these evils. Owing, however, to the great oscillation of cars on the wider gauge, the Ohio lines insisted upon a play upon the narrow gauge that added materially to the cost of hauling upon the four feet eight and a half inches gauge, to remedy which the gauge of your road has

been changed to four feet nine inches, and the Ohio roads have been, or are being, changed to four feet nine and a half inches, leaving but a difference of a half an inch, which, it is presumed, time will reduce to the uniform gauge of four feet nine inches.

Your Directors, in their last annual report, alluded to a very important movement contemplated by the Philadelphia and Erie Railroad Company, by which it was proposed to build a railroad leaving that line at the mouth of Bennett's branch of the Susquehanna, thence up that stream to the summit, and down the waters of the Allegheny to that river at the confluence of the Mahoning, and thence to Pittsburg. This line is designed chiefly for the transportation of freights at a slow speed, with a view to so cheapen its cost as to compete with the water lines leading to New York. Upon no portion of this route is there a gradient against the heavy traffic to the East exceeding ten feet per mile, or sixteen feet against the Westward bound trade, except for about four miles of the summit, where a gradient of forty-eight feet in favor of the heavy transportation is used, and for about four miles near the mouth of the Mahoning, where 55 feet per mile may be adopted.

Until the traffic justifies the application of assistant power at these points, the full loads upon the sixteen feet gradient will be passed over them by a division of the train. The exceptional gradient of 55 feet per mile near the mouth of the Mahoning may be avoided by continuing upon the side hill after striking this creek and intersecting the Allegheny Valley Railroad lower down, but the work will be expensive, and may be left to a period when the traffic will justify the outlay.

It is not proposed to extend the Philadelphia and Erie line beyond Brookville in this direction, as it will be there met by the Western Pennsylvania or Allegheny Valley Railroad, the charters of both of which companies cover the ground. From Brookville the Philadelphia and Erie will eventually be carried westwardly, south of the lakes, connecting therewith by branch roads.

The grading of this railway for about 201 miles is now under contract, and all of its expensive sections will be let as soon as the line is carefully located.

The satisfactory results obtained from the business of your railways during the past year is largely due to the judicious management of E. H. Williams, Esq., General Superintendent, who has been ably seconded by his assistants, John A. Wilson, Esq., Chief Engineer of Maintenance of Way, and A. J. Cassatt, Esq., Superintendent of Motive Power and Machinery. The heavy traffic of the lines under their charge have been moved without serious accidents and at a material saving in cost, compared with the previous year, considering the increase of tonnage transported.

The management of the Philadelphia and Erie Railroad, under its General Superintendent, A. L. Tyler, Esq., and his assistant, W. A. Baldwin, Esq., also reflects much credit upon them from the reduction of expenses realized in the movement of its traffic per ton.

Respectfully submitted. By order of the Board. J. EDGAR THOMSON, President.

Eight of the British iron clads—only three of which are completely covered with iron—cost \$15,311,565—an average of \$1,913,945 each.

The Erie, for 1868.

The following are the official figures of the Erie Railway Company, made by the President and Acting Superintendent, for the year ending Oct. 1st, 1868:

STOCK AND DEBTS.	
	Amount.
Amount of stock subscribed.....	\$46,301,200 00
Amount paid in as by last report.....	2,111,210 00
Total amt now paid in of capital stock.....	46,302,210 00
Funded debt, as by last report.....	22,429,926 00
Total amount now of funded debt.....	23,398,800 00
Floating debt, as by last report.....	3,524,813 23
The amount now of floating debt.....	4,893,735 81
Total amt now of funded and floating debt.....	23,242,535 81
Average rate, per annum, of interest on funded debt.....	7 per cent.

COST OF ROAD AND EQUIPMENT.		
	By last report.	By present report.
For Graduation & masonry.....	\$394,950 89	\$1,501,641 11
Telegraph.....	12,320 52	12,320 52
Superstructure, including iron.....	1,425,741 30	2,179,724 20
Passenger and freight stations, buildings & fixtures.....	619,522 43	849,536 34
Engine and car houses, machine shops, machinery and fixtures.....	1,503,513 95	1,530,516 21
Land, land damages and fences.....	135,563 36	335,563 36
Locomotives and fixtures, and snow plows.....	2,668,211 95	2,672,611 96
Passenger and baggage cars.....	667,441 96	694,818 17
Freight and other cars.....	2,077,568 95	2,654,706 77
Pavonia Ferry.....	174,200 83	260,210 48
New York & Erie Railroad, 38,964,28 45		38,964,284 45
Discount on sale of convertible bonds, &c.....		4,774,220 40
Total cost of road and equipment.....	\$49,247,767 70	\$56,486,605 97

EXPENSES OF OPERATING THE ROAD.			
	Passenger Transport'n	Freight Transport'n.	
Office expenses, stationery, &c.....	\$45,842 75	\$140,528 26	
Agents and Clerks.....	176,829 18	539,078 44	
Labor—loading and unloading freight.....		472,981 76	
Porters, watchmen and switch-tenders.....	42,402 90	127,073 10	
Wood and water station attendance.....	4,721 19	14,157 47	
Conductors, baggage and brake men.....	235,133 62	453,219 45	
Engine-men and firemen.....	236,523 85	422,706 28	
Fuel—coal and labor of preparing for use.....	458,889 20	819,353 71	
Oil and waste for engines and tenders.....	39,505 78	87,749 11	
Oil and waste for freight cars.....		25,404 77	
Oil and waste for passenger and baggage cars.....	10,623 51		
Loss and damage of goods and baggage.....		170,355 84	
Damage for injury of persons.....	193,135 37		
Damage to property, including damages by fire and cattle, on road.....	2,593 74	7,779 95	
General superintendence.....	59,259 76	87,685 71	
Contingencies.....	21,766 69	65,230 18	
Total.....	\$1,556,666 86	\$3,439,860 61	

EARNINGS AND CASH RECEIPTS AND PAYMENTS.	
Earnings.	
From passengers.....	\$3,531,503 88
From freight.....	10,740,975 66
From other sources.....	64,392 73
Total.....	\$14,376,872 27

Receipts.	
From passengers.....	\$2,744,416 40
From freight.....	11,425,538 84
From other sources, as follows, viz.:	
Mails.....	142,321 30
Storage.....	855 83
Telegraph.....	25,946 02
Rents.....	16,541 63
Pavonia Ferry.....	21,047 25
Total.....	\$14,370,872 27

Payments other than for construction.	
Transportation.....	\$11,143,092 32
Hudson River Ferry.....	124,313 90
Operating Telegraph.....	96,428 24
Hire of cars.....	124,501 65
Internal revenue tax.....	112,713 29
Loss on Lake Erie steamers.....	78,891 18
Insurance.....	35,970 62
Total.....	\$11,716,163 20

Interest on mortgage debt.....	1,687,967 65
Rent of Railroads.....	703,392 93
Interest.....	247,376 29
	\$14,354,900 07
Surplus Oct. 1, 1867.....	\$776,637 98
Less surplus to credit of income account, January 1st, 1867....	40,326 01
	\$736,311 97
Less dividend on preferred stock, as of January 7, 1867.....	517,304 85
Surplus deduction.....	169,007 19
	\$14,163,192 32
Surplus Oct. 1, 1868.....	191,679 32
	\$14,376,872 27

As compared with the statement of the previous year, the stock, floating debt, and bonds have been increased \$18,528,802 58. Of this amount \$16,191,000 were in common stock, which was sold at a discount of \$4,774,220 40. The bonded debt was increased \$968,880, and the floating debt \$1,368,922 58. The total amount of stock is now \$46,302,210. Of this amount \$8,536,910 is in preferred stock, leaving of common stock \$37,765,300. The bonds and floating debt together amount to \$28,242,535 81, making a total of \$74,544,745 81, to represent the cost of the road. The earnings for the year were \$14,376,872 27. The operating expenses were a fraction over 80 per cent. The cash balance on hand, Oct. 1, was \$191,679 32.

Engineer's Report on the Chesapeake and Ohio Railroad.

OFFICE OF THE C. & O. R. R. Co., }
RICHMOND, Oct. 1, 1868. }

E. FONTAINE, Esq., President.—Sir: The time which has elapsed since the organization of the company has been so brief, that I can not, from personal observation, make a detailed report on the proposed extension to the Ohio river. The reports of the Chief Engineer of the Covington and Ohio Railroad, the late Charles B. Fisk, Esq., made to the Board of Public Works of Virginia, furnish ample information on the character and cost of the work, and the information now offered is derived, for the most part, from those reports.

The length of the proposed extension is 223 6-10 miles; of this 129 3-10 miles are straight; 31 per cent. is on curves of from 11,460 to 1,910 feet radius; 3 per cent. on curves between 1,910 and 1,432 feet radius; 7 per cent. on curves between 1,432 and 1,100 feet radius, and only about one per cent. on the minimum radius of 1,000 feet.

The grades are even more favorable:

From Covington westward to the summit near the Alleghany tunnel, about sixteen miles, the line is either level or ascending, the maximum grade being at the rate of 60 feet per mile for nearly two miles. From the summit, which is 2,064 feet above tide-water, to the mouth of Scary creek on the Kanawha river, a distance of 163 miles, the line is either level or descending, the maximum grade is at the rate of 29½ feet per mile, and in this distance occurs only once, and that immediately west of the summit, for nearly eleven consecutive miles. The remaining part is level 57 miles; under 5 feet per mile, 30 miles; between 5 and 10 feet, 7 miles; between 10 and 15 feet, 14 miles; and between 15 and 20 feet, 44 miles.

On the remaining portion of the line—that between the mouth of Scary creek and the Big Sandy river—forty-four miles, 10 7-10

miles are level; 21 miles, nearly, are from 20 to 29½ feet per mile, and the remainder under 20 feet per mile.

The amount expended in the construction of this road previous to the organization of the company, is reported by Mr. Fisk to be as follows:

On the eastern division.....	\$2,502,251 00
On the western division.....	511,341 98
For engineering and other expenses.....	199,601 76
	<hr/> \$3,213,194 74

The engineer's estimate for the whole line, graded for a single track, and with a single track superstructure, but with the masonry and tunnels of double track dimensions, was \$11,112,636, leaving about \$8,000,000 still to be expended on construction.

It has often happened, but by no means in every case, that the cost of work has exceeded the engineer's estimate. This estimate, in my judgment, may be relied upon as being in excess of the amount which will be actually needed, and in this judgment several engineers of long experience concur. It is believed that none of the tunnels west of the White Sulphur Springs will require arching for many years, and, therefore, they can be excavated for single track. There are many points where we can substitute trestles for permanent embankments which would otherwise have to be made of borrowed material, and which will furnish convenient places in which to deposit the slides which may be expected in heavy excavations after the road is opened, and which may be cheaply removed by trains. Besides this, there is no doubt that a considerable percentage can yet be saved in a final adjustment of the line.

There are other reasons, which it is not necessary to mention, which confirm me in the opinion that, even taking into consideration the increase in prices since the estimate referred to was made, the line can be opened with grades and curvature as favorable as those reported by Mr. Fisk, and at a sum not exceeding his estimate.

In making this statement I do not wish to be understood as including the temporary savings which may be made by adopting, for the speedy opening of the line, temporary tracks over the longer tunnels. These may, and probably will, be found expedient, both to save time and expense in constructing such works. The tunnel at the Great Bend of the Greenbrier, which will be, when completed, over one mile in length, can be avoided in this way by a temporary grade of perhaps less than 200 feet per mile, and at very low cost.

The unfinished work between Covington and the White Sulphur Springs was put under contract immediately after the organization of the company, and some progress has been already made. It is expected that the road will be opened to the White Sulphur by July, 1869. To accomplish this, it was necessary to adopt a temporary track over Jerry's Run and the Lewis tunnel; but this track will be made with gentler grades and curvature than that which has been operated with so much success for the past eleven years near Millboro. There are two points where some delay has been feared—one at a heavy rock cut, two miles from Covington, the other at Red Hill tunnel, about two miles further west; but it is confidently hoped that both these obstacles will be removed in time.

Surveys are being made to get the road ready for contract for about five miles west of the White Sulphur, and also between the

Kanawha and Big Sandy rivers. These portions of the road will be ready in December.

The remainder of the line can be located and put under contract during the next spring and summer, and can, in my judgment, be completed within two years afterward.

The work which was done by the State is of very superior character, and is in good condition.

Mr. W. A. Kuper, having accepted the position of principal Assistant Engineer, has been placed in immediate charge of the Alleghany, Greenbrier and New River divisions. Col. T. M. R. Talcott has been placed in charge of the surveys on the western division.

Very respectfully, your obedient servant,

H. D. WHITCOMB,

Chief Engineer and Gen'l Sup't.

Northern Pacific Railroad.

Mr. Howard. The Committee on the Pacific Railroad, to whom was referred the joint resolution (H. R. No. 458) granting the consent of Congress provided for in section ten of the act incorporating the Northern Pacific Railroad Company, approved July 2, 1864, directed me to report it back without amendment; and I ask for its consideration at the present time. I hope there will be no objection to it.

By unanimous consent the joint resolution was considered as in Committee of the Whole. It proposes to give the consent of the Congress of the United States to the Northern Pacific Railroad Company to issue its bonds, and to secure the same by mortgage upon its railroad and its telegraph line, for the purpose of raising funds with which to construct its railroad and telegraph line between Lake Superior and Puget sound, and also upon its branch to a point at or near Portland, Oregon; and the term "Puget sound," as used here and in the act incorporating the company, is hereby construed to mean all the waters connected with the straits of Juan de Fuca within the United States.

Mr. Howard. I will take the liberty of saying that the occasion of introducing this joint resolution is that by the present charter of the Northern Pacific Railroad Company the company is prohibited from mortgaging any part of its line or other property for any purpose whatever. The company is desirous of having that restriction taken out of its charter so as to enable it to issue bonds in the usual way in order to raise money to go on with the work. It is a privilege exercised by all railroad corporations, I believe, and I have no doubt the company will proceed in the prosecution of the work if they can be permitted to attempt to raise money in this way.

Mr. Williams. I wish to ask the Senator one question in reference to this resolution. Does the resolution or the original act which it is intended to amend give to this company the exclusive right terminating a railroad upon the waters designated?

Mr. Howard. No, sir; neither the one nor the other.

Mr. Williams. Does it simply allow them to terminate there?

Mr. Howard. It simply gives them the privilege of terminating there.

Mr. Williams. That is satisfactory.

The joint resolution was reported to the Senate, ordered to a third reading, read the third time, and passed.

Another Railroad Case.

[From the New York Tribune.]

A suit has been brought by John R. Penn, the trustee of the \$30,000,000 sterling loan of the Atlantic and Great Western Railroad Company, against the Directors of that Company and the Erie Railway Company to compel the Erie Railway Company to appropriate the money due, under a lease, from the Atlantic to the Erie Railway Company, to the payment of the interest and principal of the mortgages of the Atlantic and Great Western Company. The complaint in the case, with the exception of the exhibits, is substantially as follows, and an injunction was granted as prayed for: The defendants are the Atlantic and Great Western Railway Company, and Henry G. Stebbins, Edwards Pierrepont, Andrew H. Green, E. Weston, T. W. Kennard, R. L. Cutting, John D. Prince, E. McDermott, Mortimer L. Mackenzie, J. P. Fennes, John Gardner, Wentworth Huyshe, Rush C. Hawkins, W. Archdall O'Doherty, Tatlow Jackson, Wm. Russell, John Fields, E. L. S. Ridsdale, J. Chaytor, Paul Margeson and F. W. Oewel, Directors. The allegations of plaintiffs are that previous to the consolidation of the Atlantic and Great Western Railway in New York, the Atlantic and Great Western Railway of Pennsylvania, and the Atlantic and Great Western Railway of Ohio, the New York branch executed two mortgages upon all its property to secure the payment of certain negotiable bonds to the amount of \$1,800,000, which bonds, to the amount of \$1,616,500, were issued to holders in good faith and for value; the Pennsylvania branch executed two mortgages upon all its property to secure the payment of certain negotiable bonds to the amount of \$3,500,000, which bonds, to the amount of \$2,908,000, were issued to holders, and also executed a mortgage upon a part of its property, known as the Franklin Branch, to secure the payment of certain other negotiable bonds of that Company, for \$528,000, which bonds, to the amount of \$349,000, were issued to holders; and that the Ohio branch executed three mortgages upon its property to secure the payment upon its negotiable bonds for \$3,300,000, which bonds, to the amount of \$6,350,900, were issued to holders. The plaintiff believes that the property of the Company in these several States is still unencumbered with the mortgages mentioned, which are prior to the mortgages held by the plaintiff on the consolidated roads. This mortgage is for \$30,000,000, and was executed in October, 1865, when the company issued bonds for the amount named, agreeing to pay 7 per cent. interest on the same. The complaint sets forth that for two years past none of the interest on these bonds (excepting \$14,000 worth) has been paid; that the affairs of the company went into the hands of a receiver in April, 1867, and so remained until December, 1868. The plaintiff believes that the property of the company has greatly decreased in value since the execution of the mortgage to him, and that it was and still is an entirely insufficient security for the mortgages with which it is encumbered; that its earnings are insufficient to pay the interest on its debt, and that it is and long has been wholly insolvent; that the Erie Railway Company has paid to the Atlantic and Great Western Company over \$100,000 on account of a lease, and that none of this sum was applied to the payment of the interest on the mortgages or on any other just debts of the company, hav-

ing been claimed by McHenry and other directors as payment for debts due to themselves. O'Doherty, one of the defendants, is alleged to have demanded from the Erie Railway Company \$800,000 on account of rent under the lease of a portion of the road, and the plaintiff alleges that this, if received, will not be devoted to the payment of the interest on the bonds. In case of the non payment, he alleges that the directors will attempt to annul said lease, which he considers is highly beneficial to the Atlantic and Great Western Railway. He, therefore, prays that the Erie Railway Company be required to appropriate all money due or to become due to the Great Western and Atlantic Railway to the payment of the interest on the bonds held by him; that the Directors of the Company (the defendants) be required to account to this Court for all moneys received by them on account of the road; that the Erie Railway Company be enjoined not to pay any moneys to the defendants on account of the said lease, and that the defendants be restrained from procuring any forfeiture of the lease to the said Erie Railway, or obtaining possession of the property now held by the said railway.

Superior—Its Future Prospects.

[From the Philadelphia Press.]

It is instructive as well as intensely exciting to watch the magic-like developments of our country, and the strange revolutions produced by the growth of its industrial and commercial interests.

Chicago, California, the oil country of Pennsylvania, the route of the Union Pacific Railroad, to go no further back, have all been the central points of excitement, that, however fierce and unhealthy for a time, have in the end proved beneficial and conducive to the permanent strengthening and building of the country.

The history of the past enables us now to forecast a little our probable future, and to determine ahead the prospective channels of enterprise and development. Just now the next grand movement would seem to be impending from the North.

That great inland sea, called Lake Superior, reaches its index finger westward, within a few miles of the head of navigation on the Mississippi river. At the extreme western end it receives the waters of the St. Louis river, which near its mouth widens into the picturesque and commodious harbor of Superior, the largest and safest of all the six lakes, washing the boundaries of the two powerful States of Wisconsin and Minnesota. A few miles up the river, at Fondulac, is a splendid water power which will one day be all employed in turning the wheels of huge factories. Stretching far to the west and northwest, embracing the whole State of Minnesota and the magnificent valley of the Red River of the North, Lake Winnipeg, and the Saskatchewan river, there is a country large enough to make three Empires as large as Great Britain, France and Austria—and rich in timber, minerals and agricultural resources. With a climate unsurpassed for healthfulness and temperature, and now open to settlement, it will for centuries to come pour its treasures into the lap of Superior. This child of promise is now just beginning to germinate and cluster around the mouth of the St. Louis river. Within one year the first railroad will be finished, by the aid of Pennsylvania capital, connecting this young city with the railway system of the Northwest at

St. Paul, and extending thence to Omaha; and by the Pacific Railroad to San Francisco, giving Superior City, it is claimed, more than three hundred miles advantage over Chicago, and water communication to the Atlantic seaboard.

Next spring the first link of the Northern Pacific Railroad from Superior to the Mississippi will be built. Within two years the road will be extended to the Red River of the North, only 185 miles from Superior, there tapping over 2,000 miles of good steamboat navigation running through a valley as large and well wooded and watered as that of the Ohio, and within four years in all likelihood this railroad will be extended across the continent to Puget's Sound, thus making Superior the eastern terminus of both those great continental lines of railway. Before the road is finished to Puget's Sound an eastern line from Superior via the Sault Ste. Marie, and Montreal, to Portland and Halifax, will be built. Another railroad, from Superior to a point on the St. Croix river, connecting with roads leading to Chicago and Milwaukee, is projected. Many lines of steamers will be established between Superior and Eastern ports. These enterprises, and numerous others of equal magnitude and significance, will be pushed along by the accumulated power of this great nation, and, by the inevitable law of cause and effect, can not fail to plant a city at Superior which may yet make the name singularly appropriate. While many cities not yet dreamed of will spring up, and those now existing will expand vastly beyond their present limits, Superior may outstrip them all when British North America becomes part of our Territory. So sanguine are the friends of this infant emporium of its great future, that they already talk of it in coming days as the site of the new capitol of the great Republic, pitting it pluckily against George Francis Train's Columbus—that geometrical point in Nebraska which is declared the physical pivot of the continent.

That this coming city is destined to conspicuous prominence, even under other relations in our commercial and financial system is foreshadowed in our New Haven despatch of this morning, in which Gen'l B. S. Roberts is said to have brought before the Connecticut Scientific Academy a plan of a proposed great national undertaking about to be introduced to public notice by the Chicago Board of Trade. This is nothing less than a plan to connect the head waters of the Upper Mississippi, Illinois, and Ohio rivers, with the waters of Lake Superior, Lake Michigan, and Lake Erie, and leveeing the Mississippi from Cairo to its mouth.

So great have been the achievements of modern enterprise that we need be astonished at no proposal, and may reasonably expect success to attend any undertaking pushed by American merchants. Should this plan, or something like it, reach a successful consummation, it will be but a fresh evidence of how inseparably are intertwined all the great interests and sections of our common country. National patriotism and sound statesmanship rejoice in the prosperity of all. The common weal is the development of every portion of our imperial land.

NIAGARA SHIP CANAL.—A bill was introduced into the New York State Senate about a week since to incorporate the Niagara Ship Canal Company, with a capital of \$6,000,000, to construct a canal from the Niagara river to Lake Ontario, around the Falls, not

to be less than 105 feet wide on the surface and 90 feet on the bottom, with 13 feet depth of water. The incorporators names are Abiel A. Low, Johnathan Sturges, Peter Cooper, Moses Taylor, Addison C. Jerome, Hiram Walbridge, Horace H. Day, Freeman Clark, Wm. A. Wheeler, Wm. F. Coolbaugh, Wm. D. Oden, of Illinois, Edward H. Broadhead, of Wisconsin, James A. Pinwall, of Michigan, R. P. Spaulding, of Ohio, C. A. Lombard, J. Converse, of Massachusetts, and others. The bill is understood to be similar to the one introduced a few years since by Hon. D. C. Littlejohn and passed, but with such amendments that the incorporators declined to proceed with an organization.

This is a step in the right direction, and we trust the Legislature will have sense enough to not only grant their request to incorporate, but grant such further financial aid in the construction of this work as its vast importance demands.

BELGIAN RAILROADS AND CHEAP FARES.—We have some interesting information on this subject in the report of the English Commissioner appointed to investigate the system of cheap freights and fares in Belgium. He represents it as working admirably. A low system of freight charges was inaugurated in 1857 and of cheap passenger fares in 1866.

The result has been, in both branches, a very large increase in bulk of business and nett profit to the Government. The traffic in 1855 amounted to 2,545,000 tons, and in 1864 it was 5,251,000 tons, or more than double in nine years. The estimated saving to the people in the way of freights was \$13,430,000, or at the rate of \$1,500,000 per annum. The actual receipt for freights at the reduced rates rose from \$2,190,000 in 1856 to \$3,345,000 in 1864. The advantages of the new system would appear still more striking if a comparison could be instituted between the passenger traffic of the two systems. But the figures, on account of the recent introduction of cheap passenger fares, are not yet attainable, though an immense increase in that direction is manifest even to a superficial observer. At a time when a similar change is advocated for this country it is useful to know what effect it has had on the commercial interests of other countries where it has been subjected to fair trial.

IOWA RAILROADS.—A statistical article has been prepared for the Des Moines State Register, showing the total amount of bonds granted the railroads in the State and their gross earnings for 1868. The data are up to January 1, as regards the number of miles built and the number of acres granted. The Burlington and Missouri River road at that time had 181½ miles finished; had received 287,097,034 acres of land. Its gross earnings for 1868 were \$841,653 24. The Chicago, Rock Island and Pacific road had 276½ miles completed; had received 47,467,436 acres of land; its gross earnings for 1868 were \$1,051,828 84. The Chicago and Northwestern road had 365 miles built; had received 701,545,419 acres of land; the earnings for 1868 were \$3,371,682 28. The Dubuque and Sioux City road had 143 miles built; had received 12,265,322 acres of land; its earnings for 1868 were \$9,707,692 52. The McGregor and Sioux City road had 85 miles built; had received 372,800 acres of land; earnings \$498,235 05. The Des Moines Valley road

had 162 miles built; had received 46,402,347 acres of land; earnings, \$710,240 94. Of the St. Paul and Sioux City there is no portion in Iowa yet built; it has received 500,000 acres of land. The Sioux City and Pacific road had 75 miles built, with a large land grant, all in Nebraska; earnings, \$127,000 02. The Council Bluffs and St. Joseph road had 52 miles; no land grant; earnings, \$153,854 93. The Cedar Falls and Minnesota road had 42 miles; no land grant; earnings, \$55,465 67. The Dubuque and Southwestern had 25 miles built; no report of earnings.

THE WEST TO BE EMPTIED INTO THE OCEAN VIA HUDSON'S BAY!—"From the West to the Seaboard"—Dr. Barrett, of Upper Canada College, proposes that some point on James' Bay, say Moose Fort, be made a seaport for the Province of Ontario. The route between Michipicoten on Lake Superior and Moose Fort might be rendered practicable by the improvement of their natural water courses—a canal of three miles would connect the Michipicoten and Moose rivers. The distance from the mouth of the Clyde to Moose Fort is 3,150 miles, and from Moose Fort to Michipicoten 220; total 3,370 miles. The distance from the Clyde to Quebec is about 2,500, and from Quebec to Michipicoten 1,100; total 3,600 miles.

"The Hudson Bay is free from storms. The route mentioned would afford facilities for the transport of the mineral products of the region about Lakes Superior and Huron to the smelting works of England; for the shipment of the cereals of western prairies and the Red River territory; and give Ontario a means of communication with the seaboard wholly through British territory."—*Canadian Monetary Times*, February 18.

The receipts of the Western Union Railroad Company, for the week ending February 28:

	1869.	1868.	Increase.	Decrease.
Freight.....	\$8,246 76	\$6,904 70	\$1,338 06	
Passengers....	3,030 45	3,528 00		\$497 55
Express & Tel.	350 00	600 00		250 00
Mail.....	375 00	375 00		
Totals.....	\$12,002 21	\$11,411 70	\$1,338 06	\$747 55

Receipts from January 1, to February 28:

1869.....	\$87,117 75
1868.....	\$4,193 11
Decrease.....	\$2,924 64

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This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

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For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF NO. FORMS.	PRICES.	SIZE NO. OF NO. FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

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J. H. WELLER, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati.
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton.
C. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., Indianapolis.
[Aug. 2, 1886.]

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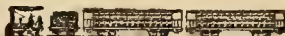
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Leave Cincinnati.....	6:15am.....	7:10pm
" Dayton.....	8:35 ".....	9:30 "
Arrive West Salem.....	1:50pm.....	4:53am
" Leavittsburg.....	4:55 ".....	7:35 "
" Meadville.....	7:35 ".....	11:10 "
" Susquehanna.....	7:48am.....	11:29pm
" Paterson.....	2:25pm.....	6:03am
" New York.....	8:15 ".....	7:00 "
" Boston.....	5:45am.....	4:45pm

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A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely new, of the most modern, substantial, and approved description, unequaled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all Trains.

Ample time is allowed, at all hours,

for meals.

No effort will be spared by the Company to render a trip over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE CHECKS,

Apply at Cincinnati at New Depot of Cincinnati, Hamilton and Dayton Railway; or at northeast corner of Broadway and Front streets, and at No. 80 Fourth street, nearly opposite Post Office. Also at any of the principal Railroad and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. BUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1886, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a.m. and 18:00 p.m. On Sundays, one Express Train at 8:00 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change of cars to Chicago or Cincinnati, and but two to St. Louis. Passengers from the East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines. State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m.; Pittsburg 12 light

9:00 a.m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 8:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN, from the West, leaving Pittsburg at 4:30 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at 7:09 a.m. Through cars from Pittsburg to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pittsburg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:52 a.m.; Allentown at 12:12 p.m.; Easton at 1:19 p.m. Through cars from Pittsburg to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing Reading at 10:49 a.m.; Allentown 12:20 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

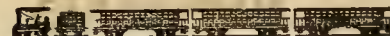
2:10 p.m.—FAST MAIL, from the West, leaving Pittsburg at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 10:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7:00 A. M.	9:10 A. M.
Springfield & St. Joseph Ex.....	12:00 P. M.	4:30 P. M.
St. Louis & Chicago Ex.....	4:55 P. M.	12:15 A. M.

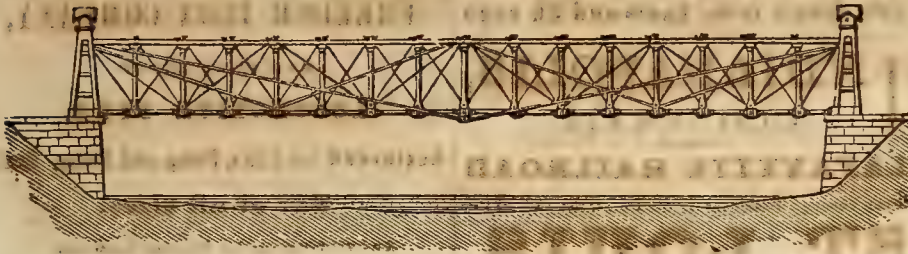
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5:15 P. M.	5:05 A. M.
Harrison Accommodation.....	10:10 A. M.	2:25 P. M.

Through Tickets can be obtained at the Burnet House, Spencer House and Gibson House Offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburg, Pa.

Letter Box, 1392.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and railroad work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention paid to the strength of the machine in the plan and construction of all the details. Our long experience and opportunities of obtaining information enables us to offer these engines with the assurance of their efficiency, economy and durability. They will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Motor Tires (to fit centers without boring), Composition Castings for Bearings, every description of Conner, Sheet Iron and Boiler Work, and every article appertaining to the repair or renewal of Locomotive Engines.

KNOX & SHAIN, ENGINEERING & TELEGRAPHIC

INSTRUMENT MAKERS

Philadelphia, Pa.

W. M. F. HEWSON,

STOCK BROKER,

21 WEST THIRD STREET, CINCINNATI.

Buys and sells Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collections.

AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

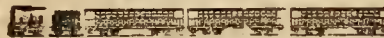
Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEO. T. JONES
S. E. Cor. Fourth and Main Sts

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent,
Pittsburg, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

[WITH

Productive Wells all

around them.

FOR SALE BY

T. WRIGHTSON

167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

—IS—

Railroad, Car and Machine Shop

SUPPLIES,

—AND—

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
3.0 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE

THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.

Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel. Ty

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly to tent for the celebrated Wheels, either single or double plate with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner the shortest notice, and on the most reasonable terms.

PASSENGERS

Purchasing Tickets via

Baltimore & Ohio R.R.

-TO-

BALTIMORE,

PHILADELPHIA,

NEW YORK, and

BOSTON,

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON



Fare to Washington City same as to Baltimore.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
JNO. W. BROWN, General Passenger Agent.

Dec. '67.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefonte and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....	6 45 A. M.	
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; or at the new House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.

JANUARY 5th, 1868.

Cincinnati to St. Louis Without Change of Cars.

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave	12 20 p.m.	2 10 "	
Arrive VINCENTES,	5 15 "	6 35 "	
Leave	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cincinnati,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine Street; Corner Front and Broadway; and at Depot, Foot of Mill Street.

C. E. FOLLET Gen. Passenger Agent
J. W. ONLOQUE,
General Superintendent.

Best Route to St. Louis and Chicago

INDIANAPOLIS,

CINCINNATI

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,

CAIRO,

CHICAGO,

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha
And all Rail and River Towns and Cities in the West,
North-west and South-west.

5 THROUGH TRAINS DAILY,

(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express....	7.00 am	10.50 pm
Indianapolis and Cairo Express.....	6.20 am	2.30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.10 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.00 pm

Through Tickets can be obtained at the Barnet-House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the L. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

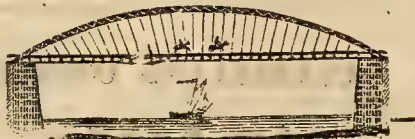
MOSELEY'S WROUGHT IRON ARCH

BRIDGES,

AND

CORRUGATED IRON ROOFS

[ARCHED AND FLAT.]



CORRUGATED SHEETS, OF ALL SIZES. Constantly on hand, painted, and ready for shipment, with instructions for applying them.

MOSELEY & CO.
Boston, Mass.

EDWIN J. HORNER,

SUCCESSOR TO

McDANIEL & HORNER,



Locomotive and Railroad

CAR SPRING MANUFACTURER,

Wilmington, Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods,

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn

JOHN A. WRIGHT, Sup't.

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works
June 9

THE SCHENECTADY

LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.,

Continue to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING

LOCOMOTIVE ENGINES

AND OTHER

Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding their work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.

PASCAL IRON WORKS.

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas, Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—¼ to 24 inches in diameter, and branches for same, &c., &c.

Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS.

THOS. T. TASKER, JR.,

CHAS. WHEELER

S. F. M. TASKER

HY. G. MORRIS.

Philadelphia, Wilmington & Baltimore

RAILROAD!



FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS.—Leave Philadelphia for Baltimore at Washington at 4.15 A. M., and 11.00 P. M. Leave at Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD,
T. WRIGHTSON. } Editors

CINCINNATI:

THURSDAY, MARCH 11, 1869.

THE RAILROAD RECORD,

PUBLISHED EVERY THURSDAY MORNING.

BY WRIGHTSON & CO.

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 1.00
“ “ per month.....	3.00
“ “ six months.....	12.00
“ “ per annum.....	20.00
“ Column, single insertion.....	5.00
“ “ per month.....	10.00
“ “ six months.....	40.00
“ “ per annum.....	80.00
“ Page, single insertion.....	75.00
“ “ per month.....	25.00
“ “ six months.....	110.00
“ “ per annum.....	200.00

Cards not exceeding four lines, \$5.00 per annum

WRIGHTSON & CO.,

Proprietors.

Arrival and Departure of Trains.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:40 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	
Columbus Accommodation.....	10:25 P. M.	10:25 A. M.
Morrow Accommodation.....	5:10 P. M.	8:00 A. M.
Lightning Express.....	8:30 P. M.	10:40 P. M.
Night Express.....		7:20 A. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:25 P. M.	5:20 A. M.
Hillshire Accommodation.....	3:45 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:50 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.).....	7:00 A. M.	7:00 P. M.
do do do.....	7:10 P. M.	7:40 A. M.
Toledo, Detroit & Canada.....	7:10 A. M.	10:45 P. M.
do do do.....	7:10 P. M.	7:40 A. M.
Lima, Ft. Wayne & Chicago.....	7:10 A. M.	10:45 P. M.
do do do.....	2:30 P. M.	5:10 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Sandusky, Cleveland & Buffalo.....	7:10 A. M.	7:40 P. M.
do do do.....	5:45 P. M.	10:25 A. M.
Cornersville & Indianapolis.....	7:10 A. M.	10:45 P. M.
do do do.....	2:30 P. M.	5:10 P. M.
do do do.....	5:00 P. M.	1:45 A. M.
Hamilton, Eaton & Richmond.....	7:10 A. M.	10:45 P. M.
do do do.....	5:00 P. M.	10:25 A. M.
Hamilton Accommodation.....		8:05 A. M.
do do do.....		6:30 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

Connersville, Rushville and Indianapolis Mail.....	7:00 A. M.	10:45 P. M.
St. Louis, Indianapolis & Connersville & Rushville Express.....	2:30 P. M.	5:40 P. M.
Cambridge City and New Castle.....	7:00 A. M.	10:15 A. M.
Cambridge City and New Castle, Express.....	5:00 P. M.	10:45 A. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:40 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	7:20 P. M.
New York Express.....	8:00 P. M.	10:40 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	6:30 A. M.
Springfield Express.....	3:00 P. M.	4:20 P. M.
St. Louis Express.....	11:00 P. M.	1:10 A. M.
Lawrenceburg Accommodation.....	10:00 A. M.	2:35 P. M.
do do do.....	4:30 P. M.	8:30 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	4:20 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:35 A. M.
Harrison Accommodation.....	5:10 P. M.	7:37 A. M.
Chicago Night Express.....	9:00 P. M.	10:52 P. M.

OHIO AND MISSISSIPPI.

St. Louis, Cairo & Louisville (Sundays excepted).....	7:50 A. M.	12:10 A. M.
Louisville Special Train (Sundays excepted).....	4:25 P. M.	11:45 A. M.
Louisville, St. Louis & Cairo Daily Express.....	7:10 P. M.	6:00 A. M.

ATLANTIC AND GREAT WESTERN RAILWAY.

Lightning Express.....	7:40 A. M.	7:30 P. M.
Night Express.....	7:10 P. M.	7:00 A. M.

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:30 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

CINCINNATI.

Manufactures and Statistics.

Board of Trade.

We observe, by the daily papers, that a Board of Trade has been established, and on inquiring more particularly what were its objects, we found they were especially to concentrate the interests of manufacturers and mechanics, procure statistics and develop the operations of those interests. This ought to have been done long ago, and for want of it Cincinnati and her manufacturers have lost immensely of what they might have had. Our knowledge of Cincinnati and its manufactures extends back many years; and we may, perhaps, give those engaged in the Board of Trade some general hints which will be valuable. We will do this in the form of propositions:

1. The rapid growth of Cincinnati from 1824 to 1844, continued to 1854, was due almost entirely to the growth of its manufactures. It is true that the general dry goods and produce business both increased largely also, but dry goods and produce business do not add largely to the number of people. For example: \$1,000,000 employed in the dry goods trade would not add more than 100 people to the city, but the same capital employed in manufacturing will add 1,000. Of the 100 dry goods men 10 will build very fine houses, but of the 1,000 manufacturers or mechanics, 100 will build smaller but respectable houses. Every one who has observed the progress of Cincinnati knows this.

2. If manufactures are of so much importance to the city, then it is obvious they ought to be encouraged as much as possible. How can they be encouraged? Of course the great public won't contribute specially for their benefit. But the great public ought to aid in that exposition of the interests of manufactures in Cincinnati, which is also the interest of the public, and it is only necessary to exercise a small share of liberality to do all that is possible for this purpose.

3. The encouragement which manufactures should receive in Cincinnati, without a special tax, may be defined generally as an exposition of the interests of manufactures, particularly at this place. This may be threefold. First, an exposition of the advantages of Cincinnati as a manufacturing center, which, if they are fairly examined, will be found superior to those of any other place. Secondly, it needs an exposition of the outward markets for manufactures South, South west and West. It is plain, to one acquainted with the country, that there is not in the

United States as good a point to distribute manufactures as Cincinnati, even now; but if the Southern road be made it will have no rival in the whole country as a distributing point for manufactures. Thirdly, there must be full and thorough statistics obtained of all the workshops of Cincinnati, of all the sales of manufacturing products, of the districts whence the demand comes, of all the materials necessary for manufactures here, to be obtained from neighboring regions. Now, three-fourths of these statistics have never been obtained at all. The value of them will appear when it is recollected that this is the very best advertisement, both for those already in business and to bring business and workmen to the city. As to the latter point, those who are engaged in manufacturing, we think, will find this to be true of a large manufacturing place, that the more kinds of manufactures and the more workmen engaged in those kinds of business, the better it is for each business—there are more facilities for all kinds of business, more workmen and a better market for materials. The exposition of the manufacturing and mechanical trades, and of the great facilities here, is a thing of vital importance to the city. In the growing period of the city this was done; and compare the progress of the city with what it is making now. In 1815 Dr. Drake published his "Picture of Cincinnati;" in 1826 Mansfield and Drake published their "Cincinnati in 1826," and in 1840 Cist published his Cincinnati, which was continued in 1850. These were individual enterprises scarcely paying their cost, but Cincinnati grew by them more than from any other cause. They were great expositions of what Cincinnati might be. "Cincinnati in 1826" was republished in England and Germany, and brought out great numbers of immigrants. What has happened since 1850? Nobody has advertised Cincinnati, not even the daily papers. But Chicago has been advertised and puffed, and blown up, so that it has really become a great place. We have said this, as we remarked, as hints to the Board of Trade. They can do an immense deal for themselves and for Cincinnati, at a comparatively small cost. Some cost there must be, for they must have somebody that understands such work. But it is within bounds that the small expense necessary to make a fair exposition of Cincinnati as a manufacturing place would be returned a thousand fold. The press of Cincinnati has not done all that it might in this matter, because ordinary writers for the press understand but little of the actual condition of Cincinnati, or of the resources of this region, or of statistics. There must be well-informed persons to do this. In order to give some idea of the rise of Cincinnati as a manufacturing place, we will give an extract or two from the little works, which, prior to 1850, set forth its progress and resources.

Dr. Drake, in his picture of Cincinnati, says: "In 1815 that Cincinnati has no iron foundry, but has several blacksmiths, and makes nails sufficient for itself. It had a small woolen factory. It had a steam saw-mill on the river bank, which was esteemed quite a wonder in those days, and the title was printed in capitals. There were some small cotton factories, a white lead factory and the ordinary mechanics shops." Such was the Cincinnati of 1815.

"Cincinnati in 1826" (Drake & Mansfield) shows a great advance and is very much pleased with the array of manufacturing establishments. The "steam mill" still stands out as a magnificent affair, but the city is no longer without foundries. There are five foundries and three engine finishing establishments, as they were called; for now, fourteen years after the first, steamboat building became quite a business. In that year 56 steamboats were built on the Ohio, of which seventeen were built in Cincinnati. This was doing well. At the same time the soap and candle business, the tanneries and the furniture shops all rose to importance with various other kinds of manufactories.

In 1840 Cist gave a list of numerous factories and a great variety of mechanical employments. The summary was:

Capital employed in factories and mechanics.....	\$14,541,842
Value of products.....	17,432,670
Hands employed.....	10,677

Including the families, two-thirds of the people of Cincinnati were then employed in manufactories.

In 1850 Mr. Cist makes the aggregate value of products \$55,000,000, an amount which we believe to have been in some way exaggerated, for the amount returned for the whole of Ohio in 1850 was only \$62,000,000. We have no doubt, however, that of that amount Cincinnati furnished four fifths. The United States Census gave, in 1850, the number of hands employed in Cincinnati in manufacturing and mechanical labor at 15,600.

In 1860 the census of the United States returned the value of products (manufacturing) in Hamilton County (of which nine-tenths were in Cincinnati) at \$48,500,000. Now we observe here a very curious thing—that the Census of 1860 returned less manufacturing products for Cincinnati than Mr. Cist did for 1850. But we know ourselves that manufactories had actually increased in that time, but very slowly. Mr. Cist exaggerated some things (unintentionally) but, in fact, the United States Census fell far short of the truth. And here is the point to which we call the attention of the Board of Trade. If the Board wishes to make a fair and full exposition of the business of Cincinnati, connected with its industry, it must employ competent persons to do that on its own account.

Who was the Author of the Pacific Railroad?

We received from a friend the following note on the authorship of the Pacific road. We believe the facts are correct, and, as the practical author, it places Thomas Allen ahead of all other claimants; for, although Whitney and many others talked and wrote on the subject, and did well; yet it is obvious Mr. Allen did more than any other one person. We regret that the profits, if not the credit, of the Union Pacific should fall wholly into the hands of those who had nothing to do with it till the eleventh hour. We have done more in this paper for the Pacific road than the men engaged in it, for they did not furnish the capital; but so goes the world and we must submit to its decrees:

ANOTHER CLAIMANT TO REMEMBRANCE IN RESPECT TO THE COMMENCEMENT OF THE PACIFIC RAILROAD

In your paper of February 4, you have a chronological list of projectors of the Pacific Railroad. A gentleman you have not named claims to have given the enterprise the first practical start. I allude to Thomas Allen, of St. Louis, a native of Pittsfield, Massachusetts. He obtained the first charter for a Pacific Railroad from the General Assembly of Missouri, and organized the first company and was three years its President, and for fifteen years its largest stockholder. He was the author of a call for a National Convention on the subject addressed to the people of the United States. The Convention was held at St. Louis in 1849, and Stephen A. Douglas was President of it. The sentiment of Col Benton, "There is the East—there is India," now preserved in brass, was uttered at this Convention. The address of the Convention to the people of the United States was, by appointment of the Convention, written by Mr. Allen. He petitioned Congress for a grant of lands and right of way across Missouri and got it. Under his administration the first Pacific Railroad was commenced, and the first locomotive that ever crossed the Mississippi was procured by him at Taunton, Massachusetts, and was called the "Pacific," and is running at this day. In 1852 Mr. Allen petitioned Congress to grant lands and loan the credit of the nation to aid in carrying the road across the continent. The plan he urged was, in substance, the identical plan which, ten years later, was adopted by Congress, and is now building the Union Pacific Railroad. Before any United States surveys were made, Mr. Allen offered to the War Department to survey, at the expense of his own company the route south-east from St. Louis, by the way of Albuquerque, as being the least liable to interruption from snow.

Receipts of the Western Union Railroad Company for the week ending March 7:

	1860.	1868.	Inc	Dec.
Freight.....	\$10,344 97	\$3,711 94	\$6,633 03	.....
Passengers.....	3,230 21	2,575 65	654 56	.....
Express and Tel.	350 00	350 00	.....	.....
Mail.....	375 00	375 00	.....	.....
Totals.....	\$14,340 18	\$7,017 63	\$7,322 55	.....

Receipts from January 1, to March 7:

	1869.	1865.
.....	\$4,533 29	.....
.....	91,35 38	.....
Increase.....	\$4,397 91	.....

The Reliable Knickerbocker.

An old proverb says, "a wise man makes provision for himself in old age, and for his family, after his death."

Indeed these are of two the great moving powers of human life. But how this could be best that is most certainly accomplished, has been a serious question the discussion of which doubtless prompted the organization of Life Assurance Companies.

Like all such institutions they had to pass through the bitter trials of experience, which wrecked many of them, and produced loss and injuries. But the world was wiser and new companies learned the rocks and shoals upon which others had foundered, and if rightfully governed will avoid them.

American organizations of this character are among the best in the world; and when in the hands of thoroughly honest men, as well as men of business experience, they exhibit unparalleled progress and success. There are no Assurance Companies in any other country that grant such privileges to the assured, and at the same time accumulate so large an amount of productive reserved capital as the first-class companies of the United States. As an example we present the Knickerbocker of New York, as the first of this class. Look at its relations with the assured—the policy holders.

1. It is mutual because its profits are equitably divided among the assured.

2. Its dividends are declared on the contribution plan and are added to policies, or applied to reduction of notes, or are payable in cash if no note has been given.

3. It allows the assured to travel and reside in any of the civilized portions of the United States or Europe, at any and all seasons of the year, without extra charge.

4. It throws out almost all restrictions on occupation from its policies.

5. Its premiums may be paid annually, semi-annually, or quarterly, as may be most convenient.

6. It will grant policies on a single life to the amount of \$25,000

7. It will if desired, take a note for part of the premium, thus combining all the advantages of a note and all-cash Company. This arrangement favors persons of small means, in securing from 30 to 40 per cent more insurance for the same cash payment that can be had in an all-cash Company. It favors capitalists, who can make their money earn more than average interest.

8. Its policies are non-forfeiting, as it allows the assured to surrender his policy, should he desire, the Company giving a paid-up policy therefor, according to agreement.

These facts are sufficient to show that the policy holder has every advantage that experience, and safety to the Company can grant him, and indeed all that is asked. Then add to this the further facts, that the management of this Company has been such as to place it in the following relations with the other two principal New York Companies, viz:

PROPORTION OF ASSETS TO LIABILITIES.

Organized 1843, Mutual.....	106.71
Do 1853, Knickerbocker	114.22
Do 1859, Equitable.....	107.82

We ask, are we not justified in speaking of the Knickerbocker as THE RELIABLE.

Columbus, Chicago and Indiana Central Railway Lease.

LEASE OF THE COLUMBUS, CHICAGO AND INDIANA CENTRAL RAILWAY, TO THE PITTSBURG, CINCINNATI AND ST. LOUIS, AND PENNSYLVANIA RAILROAD COMPANIES.

INDENTURE made and entered into this twenty-second day of January, Anno Domini one thousand eight hundred and sixty nine (1869) by and between *The Columbus, Chicago and Indiana Central Railway Company* party of the first part, and *The Pittsburg, Cincinnati and St. Louis Railway Company* party of the second part, and *The Pennsylvania Railroad Company* party of the third part, witnesseth:

ARTICLE I. That the party of the first part, in consideration of the covenants and agreements of the parties of the second and third parts hereinafter contained, doth hereby let, lease and demise to said party of the second part, its successors and assigns, the entire railroad of the party of the first part, lying, being and extending from its terminus in the City of Chicago, in the State of Illinois, through the County of Cook in said State, southward, to the State of Indiana, and through the Counties of Lake, Porter, La Porte, Stark, Pulaski, Cass, Howard, Tipton, Madison, Henry and Wayne, in Indiana, to the City of Richmond, and thence eastward to the State of Ohio and through the Counties of Preble, Darke, Miami, Champaign, Union, Madison and Franklin, to the City of Columbus, Ohio; and also extending from the City of Richmond, aforesaid, westward through the counties of Wayne, Henry, Hancock and Marion, to the City of Indianapolis, in Indiana; and also extending from the main line aforesaid, at a point in Miami County, Ohio, westward through the County of Darke, in Ohio, to the Indiana State Line at Union City, and thence westward through the Counties of Randolph, Jay, Blackford, Grant, Miami, Cass, White, Jasper and Newton, in Indiana, to the line of the State of Illinois in the direction towards Peoria; altogether being in length of railways about five hundred and eighty six and one half (586½) miles—about four hundred and twenty four and one half (424½) miles thereof being in the State of Indiana, about one hundred and thirty-four and one-half (134½) miles thereof being in the State of Ohio, and about twenty-seven and one-half miles (27½) thereof being in the State of Illinois—with all its franchises, equipments, property, tolls; and all its lands, tenements, buildings, fixtures, machinery connected with or used in the using or operating of said railway or appurtenant thereto; and all its rails, ties, fuel, fencing and erections; and all its rights of way and easements; and all cars, engines and tools owned by said party of the first part on the taking effect of this lease, and all rents accruing to it thereafter, together with all the rights, privileges and appurtenances, thereunto belonging, with the right to use the

franchises and privileges of every character, either on the line of the road or elsewhere; also the interest of the party of the first part in the line of road extending from Cambridge to Rushville, as well in the road as in bonds to be issued to said party of the first part for advances made in the construction of said road: *it being understood* that the entire revenues from said road, to which said party of the first part would be entitled had this lease not been made, shall enter into and become a part of the gross earnings of the railroad of the party of the first part hereby demised. In case said bonds shall be paid, then the money so paid shall be used in construction purposes on the line of the railroad of the party of the first part, for the mutual benefit of the parties hereto, and without charge to said party of the first part, *together* with the use of all its rights, property and interest in any other railroad, wherever situated; *provided*, however, that this conveyance aforesaid shall not include nor operate to transfer any lands, property or other matters which said company now owns or may hereafter acquire, that need not be used for any purposes incident to the management or operation of said railroad, or the repair thereof, or in the business of said railway Company; nor shall these presents in any way prohibit the party of the first part from selling and conveying or otherwise disposing of the same, and of all the proceeds thereof, nor from using for its own purposes, as its own property, all moneys, bonds and other securities, all credits, all dues, whether in notes, accounts or otherwise, held, or to which it is entitled, on the taking effect of this lease or thereafter: *provided*, that the foregoing named assets shall be applied to the payment of the floating debt of the company of the party of the first part, so far as the same shall be required therefor.

To have and to hold, to the said party of the second part, its successors and assigns, the above leased and demised premises, for the full end and term of *ninety nine (99) years* from and after the first day of February, Anno Domini one thousand eight hundred and sixty-nine, and renewable from time to time at the election of said party of the second part, for like periods, forever on the same terms, stipulations and conditions, but subject, however, to the earlier determination of this lease, as hereinafter provided for.

ARTICLE II. The said party of the second part, in consideration of the covenants and agreements of said party of the first part herein contained, doth hereby covenant and agree with the said party of the first part, to take under this lease the above demised premises for the said term of *ninety nine (99) years* from and after the first day of February, Anno Domini one thousand eight hundred and sixty-nine, with option of renewal as hereinbefore provided, and further covenants and agrees with said party of the first part, its successors and assigns, as follows, to wit:

ARTICLE III. That it will at its own cost risk and expense during all the said term, keep, preserve and maintain the said railroad in good working order and repair as a first class railroad, so as to be suitable for the transaction of all business which can be reasonably done thereon, and will in like manner maintain and preserve all the side tracks and station houses, and will in like manner maintain in good repair and condition all the fixtures, appurtenances, tools and machinery pertaining to said railroad, and all the property essential to and connected therewith hereby leased; and will in like manner at all times during the continuing of this

lease, maintain and preserve all the rolling stock, and equipments hereby leased in as good repair and condition as the same now are; and that it will in like manner at all times furnish and keep, for the use of the said railroad, engines, cars, equipment and rolling stock reasonably sufficient for the business thereof as the same may increase; and will in like manner at all times during the continuance of this lease, run and operate the said railroad so as to do and perform in a proper manner all the business which can reasonably be secured for and done on the same, and will fully perform towards the public all the obligations due to it from the said party of the first part, and will at its own cost and expense maintain and run and operate the said railroad, to the end that as large an amount of earnings and profits may be made and realized therefrom as can lawfully and reasonably be made and realized under the terms of this lease.

ARTICLE IV. That it will at all times place the said railroad to and from all common and competing points accessible by it, and connecting lines, on as favorable a basis, as to the trade and traffic thereon, as may at any time be granted to the road or roads of any other company, and will keep and maintain an efficient organization for the procurement of traffic and business on and over said railroad and between the seaboard cities and the West.

ARTICLE V. That it shall at all times during the hereby demised term or terms have the exclusive right to manage and control said demised railroad and premises, and to regulate and determine the rates of tolls, freights and charges for all the transportation over the whole or any part of said demised railroad and premises, rents or other revenues connected therewith; and it shall have full free and exclusive right to charge and collect all of said rents, tolls and charges, and to appropriate the same in the way and manner hereinafter mentioned, and shall have, use, exercise and enjoy all the rights, powers and authority aforesaid, and all other corporate powers and privileges, which can or may be lawfully exercised and enjoyed on and about said demised railroad and premises, as fully, amply and entirely as the same might or could have been used, exercised and enjoyed by the party of the first part had this lease not been made, and as exclusively, fully, amply and entirely as the party of the first part have or shall acquire authority by law to grant the same; it being understood and agreed that all revenues derived from the traffic carried jointly over the roads or parts thereof of the parties of the first and second parts hereto shall be divided pro rata, as to the distance moved thereon; except that local rates shall be preserved, as far as practicable, to both said parties.

ARTICLE VI. That in consideration of the premises, the said party of the second part shall at all times during the hereby demised term, pay out of the annual gross earnings all taxes and assessments of every kind, that may be imposed on, or assessed against said party of the first part, on the property hereby leased, including the business done upon said line, in the same manner and to the same extent that said party of the first part would have to pay if operating its own line; and out of the surplus of said annual gross earnings the said party of the second part shall be entitled to receive *seventy per centum* (70 per cent.) for their own sole and exclusive use.

ARTICLE VII. It is mutually covenanted

and agreed that the whole of the balance of said gross annual earnings and revenues, after deducting the taxes and assessments as aforesaid being thirty per cent. (30 per cent.) thereof, shall be and the same are hereby appropriated and shall be applied to the purposes and paid by the party of the second part in the way and manner following:

First. To the payment of the interest that may accrue after February first, eighteen hundred and sixty nine, being at the rate of seven per cent. (7 per cent.) on all the mortgage bonds of the party of the first part, to the extent of twenty millions of dollars, (\$20,000,000) in accordance with their respective equities and priorities, and—

Second. To the payment of the interest upon the income bonds of the party of the first part which may hereafter be issued to the party of the second part for the purposes of construction, as hereinafter mentioned, said interest to be deposited in ample time to meet the accruing coupons, at some bank, trust company or agency in the City of New York, as may be agreed upon from time to time by the parties of the first and second parts; Provided, nevertheless, that if the said thirty per cent. (30 per cent.) should not in any one year be equal to the sum required for the payment of the interest as aforesaid, then and in that event the party of the second part shall and will at their own cost and expense, and without charge to the party of the first part pay to said agency or agencies the amount required to pay said interest, as the same shall become due and payable.

Third. To the payment of whatever surplus may remain in any one year of the said balance of thirty (30 per cent.) per cent. to the Treasurer of the party of the first part, annually on the first day of March; or if, in the opinion of the said party of the second part, the probable annual surplus shall justify the same, then semi-annually on the first days of September and March in each year, for dividends upon the stock and for such other purposes as the party of the first part may determine.

ARTICLE VIII. In order to provide for the payment or redemption of the said twenty millions (20,000,000) of seven (7 per cent.) per cent. bonds of the party of the first part, secured by mortgages, the party of the second part covenant and agree, that they will provide an annual Sinking Fund as required of the said party of the first part by the terms and conditions of the said mortgages therefor, and upon the redemption and cancellation of the said bonds, the party of the first part covenant and agree that they will in consideration thereof, pay or issue to the party of the second part, at the option of the party of the second part, bonds at par, bearing (7 per cent.) per cent. interest for an equal amount, to be secured by a mortgage having a first lien, unless otherwise agreed upon, or issue to the party of the second part shares of the capital stock, of party of first part, at par.

ARTICLE IX. The party of the first part hereby assigns and transfers to the party of the second part all its right and interest in its contract of the eleventh of March, A. D., eighteen hundred and sixty-eight with the Terre Haute and Indianapolis Railroad Company *et al.*, and its contracts with the Little Miami and Columbus and Xenia Railroad Company, the Indianapolis, Cincinnati and Lafayette Railroad Company, the Indianapolis and Vincennes Railroad Company, stock yard contract at Chicago, and all other of its contracts relating to other roads for transpor-

tation, copies of which are hereto annexed; and the said party of the second part assumes and agrees, at its own risk and expense, to carry out each and all said contracts according to their respective tenors and legal liabilities, receiving and enjoying all benefits to be derived therefrom; and also to indemnify and save harmless, the said party of the first part, on account of its indorsements on the bonds of the St. Louis, Vandalia and Terre Haute Railroad Company, and the Indianapolis and Vincennes Railroad Company.

ARTICLE X. The party of the second part shall provide the means for and acquire any needful right of way and real estate, erect such necessary depot buildings, shops, engine houses, side tracks, and appurtenances, and for other permanent construction as may be reasonably required to accommodate the traffic of the railroad hereby leased, and shall be entitled to receive for the actual advance so made, income bonds at par bearing seven (7 per cent.) per cent. interest, payable at such time as may be agreed upon, and such bonds, or any part of them, to be convertible into stock at the option of the holder at any time. The aggregate of such facilities required, and the amount to be expended, shall not exceed the sum of two millions (2,000,000) of dollars for the next three (3) years. All expenditures of like character thereafter, and the means required therefor shall be matters of mutual agreement from time to time.

ARTICLE XI. No issue of bonds beyond the fifteen millions (\$15,000,000) of First Mortgage Consolidated Bonds and the five millions (\$5,000,000) of Second Mortgage Consolidated Bonds, and the two millions (2,000,000) of Income Bonds hereinafter provided for, shall be issued by the party of the first part without the consent of the Board of Directors of the respective parties to this lease; the one half part of the said five millions of second mortgage bonds, to be used in taking up certain income and other bonds, now outstanding, not included in the fifteen millions (\$15,000,000) dollar loan aforesaid, on the different lines composing the railroad of the party of the first part; and the other half part thereof to be used in paying off the debts due and to become due, of all kinds, of the said party of the first part, except the said bonded debt of twenty-two millions (\$22,000,000) dollars.

And it is further agreed that no further issue of bonds shall be made except as heretofore provided, or stock issued beyond the sum of thirteen millions (\$13,000,000) of dollars, except as the same may be increased by the conversion of bonds into capital stock of the company; in which case the bonds so converted shall be cancelled, making in the aggregate of bonds and stock, thirty-five millions (\$35,000,000) of dollars.

ARTICLE XII. The said party of the second part shall pay for all supplies and equipments delivered on prior contracts, after the railway passes into the possession of the party of the second part; and the party of the first part shall pay for all supplies and equipments delivered before the party of the second part shall take possession, including all pay rolls and other floating indebtedness, so that the railroad and other property shall be made free of all debt, except of First Mortgage Bonds, to the amount of fifteen millions of dollars; Second Mortgage Bonds, to the amount of five millions of dollars; and of two millions of dollars of Income Bonds, to be issued as herein provided, for construction purposes.

ARTICLE XIII. Passenger trains shall be

so run between Chicago and the east via Pittsburgh as to make direct connections, the speed of which shall be prorated upon the roads of all the parties hereto; and the party of the third part shall not run trains at higher rates of speed for any other connecting line, nor grant facilities of any kind that shall not be equaled by those given to the parties of the first and second parts; and in case the organization of the party of the second part for the procurement of either passengers or freight in the eastern cities or in the west, shall not be satisfactory to the party of the first part, then the said party of the first part may use its own organization, at its own expense for the procurement of the above traffic, in the east or west, being governed in the securing of such traffic by the rates fixed or agreed to by the party of the second part, and no consolidation of earnings or running arrangements shall be made by the party of the second part with any other company for competing business or traffic without the consent of the party of the first part.

ARTICLE XIV. In case of default in payment of interest on the bonds or sinking fund as before provided, for sixty (60) days after the same shall become due and payable; or in carrying out any of the provisions of this lease; or of default by the said second or third parties to do and perform any and all of the agreements to be done or performed by them, respectively, as aforesaid, for the space of four months, then the said party of the first part shall have the right to enter upon and take possession of all the property hereby leased, and all depots, shops, buildings and other permanent property added thereto; and the said second and third parties, each for itself, agrees with said party of the first part not to hinder or prevent its entering upon and taking such possession and using all said property for its own benefit and use by any suit or proceeding in law or in equity or otherwise, and without prejudice as to any rights or damages which said party of the first part may have for such default, it being understood that this lease shall terminate on the party of the first part taking possession of the demised premises as herein provided for.

ARTICLE XV. The said party of the first part shall have the right to appoint a disinterested person as engineer, having no interest, directly or indirectly, in the property, bonds or shares of the party of the first part, who shall examine, during the month of Dec., in each year, the said railroad and other property, equipment, &c., belonging to said party of the first part and in the possession of the said party of the second part, and who shall report to the parties hereto as to the condition of the same, in order that said parties of the second and third parts may comply with the conditions herein contained in that behalf.

ARTICLE XVI. And the party of the third part for and in consideration of the sum of one dollar to it in hand paid by the parties of the first and second parts, the receipt whereof is hereby acknowledged and of the benefits and advantages accruing and to accrue to it by reason of the covenants and agreements hereinbefore recited, by the said parties of the first and second parts, to be done and performed in the forming, maintaining and operating a continuous line of railway in connection with the roads of the party of the third part, does hereby guarantee to the party of the first part, that the party of the second part will in good faith do, keep and perform all and singular the mat-

ters and things which the said party of the second part have hereinbefore covenanted and agreed to do; and upon any failure or default of the said party of the second part to keep and perform any and all of its said covenants and agreements, that then the said party of the third part, will, upon notice to them in writing, of the kind and nature of such failure or default do keep and perform the same for and on behalf of the said party of the second part. In which event the parties of the first and second parts agree that the party of the third part shall, at its option be entitled to all the profits and advantages which might or could arise or accrue therefrom to the party of the second part. And the said party of the third part further agrees that the said lines of railway so formed, maintained and operated shall at all times be placed upon a perfect equality with any other line or lines of railway that may connect at Pittsburg as to the rate and facilities for joint transportation for all classes of traffic to and from all points west and east. It being distinctly understood and agreed that the proceeds of all joint traffic on or over the lines of railway of all the parties hereto shall be divided among them *pro rata*, on the basis of the shortest all rail connections with the road of the party of the third part, to and from any competing points in the west, the object and intention being to place the joint line formed by the roads of the parties of the first and second parts in respect to the road of the party of the third part and its Eastern connections upon terms equally favorable to those granted by any other line, from time to time as to facilities and to give to the line of the road of the parties of the first and second parts as its share of earnings on joint traffic moved over it, all that can accrue to any other line of road west of Pittsburg for transportation of like joint traffic to and from any competing point on the *pro rata* per mile basis of division by shortest all rail lines forming the route of the party of the third part to and from Baltimore and Philadelphia and *via* Philadelphia to New York and other points East.

And the party of the third part will at all times so conduct its organization for securing traffic over its own and connecting roads as to place the line of the parties of the first and second parts on a perfect equality in all respects with any and all other lines.

ARTICLE XVII. It is further stipulated and agreed that the party of the first part shall and will, from time to time hereafter, during the continuance of this Lease, make, execute and deliver unto said party of the second part, their successors or assigns, all and every such further and other leases, deeds, transfers and assurances as by said party of the second part, their successors or assigns, shall be reasonably desired or required for fully effectuating the objects, intents and purposes of this Lease and of the premises, and for fully confirming, leasing and demising, as herein provided, the Railroad and premises hereinbefore mentioned, and leased, or intended so to be, and for more fully confirming and securing unto the said party of the second part all the rights and privileges hereinbefore mentioned and granted and secured, or intended so to be: It being understood, however, that no assignment of this Lease, nor of any rights under it, by the party of the second part, shall be made without the consent of the party of the first part.

ARTICLE XVIII. That the party of the second part shall keep an accurate account of all the business, receipts and revenues arising

from the demised property, and its book relating thereto shall be subject to the examination of the President of the Company of the party of the first part, or of any other person duly authorized by them to examine the same, and the party of the second part shall furnish to the party of the first part monthly accounts of all the gross receipts, and an annual account of all the said gross receipts and revenues.

ARTICLE XIX. That if any difference shall arise in relation to this Lease between the parties of the first and second parts, each shall select a referee of experience and skill in railway management, and the said referees shall select another of like skill and experience, and the three so chosen shall hear and decide such differences, and their decision, or that of a majority of them, shall be final and conclusive upon the said parties. And in case either of the parties fail to appoint a referee, as aforesaid, for the space of thirty (30) days after written notice to make such appointment, then and in that event the referee appointed, by the party not in default, shall appoint a referee for the defaulting party, and the said two referees shall then select a third referee as aforesaid.

In witness whereof, The Columbus, Chicago and Indiana Central Railway Company, The Pittsburg, Cincinnati and St. Louis Railway Company, and the Pennsylvania Railroad Company, the said parties to these presents, have caused their respective corporate seals to be hereunto set and affixed, attested by the signatures of their respective President and Secretary, the day and year first above written.

B. E. SMITH,

Pres't C. C. & I. C. R. Co.

Attest: G. MOODIE, Secretary.

THOS. L. JEWETT,

Pres't P. C. & St. L. R. W. Co.

Attest: J. G. MORRIS, Secretary.

J. EDGAR THOMSON

Pres't P. R. R. Co.

Attest: EDMUND SMITH, Secretary.

The total of copper produced in the Ontonagon district, L. S., during 1868 was as follows:

	Tons.	Pnds.
National.....	318	1,548
Evergreen Bluff.....	227	59
Knowlton.....	132	609
Ridge.....	118	49
Ogima.....	120	862
Minnesota.....	164	242
Aztec.....	36	1,804
Superior.....	37	1,089
Rockland.....	67	406
Total.....	1,222	168

The total shipments were—the National not included—808 tons.

ENGLISH AGRICULTURE.—During last year there were in the United Kingdom of Great Britain 45,652,000 acres under cultivation, of which 11,659,000 were devoted to cereals; 4,865,000 to vegetables; 5,690,000 to clover and rotation grasses, and 22,164,000 to permanent pasturage. England alone possessed 3,779,000 cattle and 21,930,000 sheep. In every one hundred acres in England, 42 are pasture; in Wales, 56; in Scotland, 23, and in Ireland, 64.

Iron & Steel Products of the United States in 1868.

The following are statistics from the Report of the Secretary of the American Iron and Steel Association, read at its annual meeting on the 18th ult. at Philadelphia. The brief time since the close of 1868 makes exact statistics impossible, but the following are near approximations:

	Tons of 2,000 lbs.
Pig iron products for 1868.....	1,603,000
Anthracite.....	893,000
Raw and Coke.....	340,000
Charcoal.....	370,000

Total..... 1,603,000

The products of States are as follows:

ANTHRACITE.

Pennsylvania.....	671,955
New York.....	160,681
Other States.....	60,364

Total..... 893,000

RUN COAL AND COKE.

Pennsylvania.....	294,000
Ohio.....	22,000
Other States.....	24,000

Total..... 340,000

CHARCOAL.

New England.....	30,000
New York.....	27,400
Pennsylvania.....	59,600
Maryland.....	25,000
Ohio.....	86,000
Michigan.....	65,000
Other States.....	77,000

Total..... 370,000

The estimated value of the pig iron made the past year was \$63,000,000.

The forges and bloomeries have produced the past two years:

	1867, tons.	1868, tons.
New England.....	8,462	7,500
New York.....	22,834	23,000
New Jersey.....	5,780	6,200
Pennsylvania.....	31,747	33,500
Other States.....	4,250	5,000
Total.....	73,073	75,200

Estimating the above product made direct from the ore at one half, we have the total product of iron from the ore as 1,640,000 tons.

The estimated product of the rolling mills is 1,105,000 tons, an increase of 63,000 over 1867—an increase mostly due to a larger product of rails, amounting to 506,714 tons, against 462,108 tons in 1867.

The total product of steel (8,000 tons of Bessemer included) is given at 30,000 tons, and the capacity of our steel works is given as equal to the full supply; while the excellence of American steel is commended as beyond question, and the need of further protection for this important industry is urged.

Blast furnaces have been built the past year in Illinois and Indiana, with prospect of increase in the business; new furnaces in Michigan, Wisconsin and Missouri, and several rolling mills in the West and Northwest. Blast furnaces on the Oregon and Willamette rivers, and a rolling mill near San Francisco, have been erected, and attention

is being paid to the mineral resources of the South, and a public sentiment is growing there in favor of home industry.

The total imports of iron and steel, and the manufacturers thereof, for the year ending June 30, 1868, are given at 522,615 tons, valued at \$23,496,835.

Late figures of the British Board of Trade for 11 months, up to Nov. 30, shows exports to this country from Great Britain of 93,073 tons of pig iron, or less than in 1867, and more than in 1866. Of bar, bolt, angle and rods, 43,388 tons were shipped, a slight decrease since 1867. Imports of railroad iron are heavy, including 278,035 tons or 58 per cent. more than in 1867, and about 40 per cent. of our entire consumption.

Our steel imports were 16,700 tons—a little less than the past two years.

Our exports of iron, steel and manufactures thereof in 1868, were \$9,141,740.

In closing the Secretary says:

"The past year has witnessed many important improvements, more or less important, tending to better the quality and cheapen the production of iron and steel. The willingness of our iron and steel makers not only to adopt approved appliances, but to test the value of theories that commend themselves alike to science and common sense, show that they are determined to maintain their present advanced position among the workers throughout the world in these metals."—*C. R. W. Times.*

THE CHICAGO PROBLEM.—Chicago's life is in her success in reducing freights. If the day shall ever come in which no grain crosses the Mississippi below Dubuque or McGregor, for the lake route, and if the vast stores now opened to us west of that river, from which we derive so large of our trade, shall, as soon as they strike navigable water, take a turn down stream, Chicago will lose her metropolitan character, and become stationary like Buffalo or Cincinnati. Hence, whatever facilitates our inland commerce by rail and our Eastern commerce by lake, and reduces the present charges, though the reduction per bushel may be small, is not to be overlooked or neglected. We do not know how much the desired result will be promoted by the construction of the proposed harbor, but we should imagine that in the unlimited facilities which the railroads will have for transferring the contents of their loaded cars directly to vessels without other charge than for weighing and inspection, and in the superior accommodations that the vessels themselves will have, with decreased expenditures of time and money consequent upon easy access to their docks, a reduction of full three cents per bushel on wheat, and perhaps the same on corn, may be expected. Three cents here, two cents there, and one cent yonder are just what the grain trade of the West demands—lower charges in Chicago, lower freight on the lakes, lower tolls on the canal, larger locks on the St. Lawrence—everything which promises to maintain here that unquestioned supremacy in the internal commerce of the country of which we now boast. For the share that the proposed harbor will have in increasing the value of the great staples of the interior in the hands of the producer, hence in swelling the trade and enriching the merchants of the city, we shall be duly thankful. The harbor itself is but one of the great works that are necessary to make our position here at the head of Lake Michigan secure against all who may challenge it! *Chicago Evening Post.*

The Invention of the Locomotive.

We are indebted to Mr. Brose E. Fanning, an inventor of this city, for a number of clippings from newspapers published between 1829 and 1832, among which are reports of the early English experiments with locomotives, together with editorial reflections on the probable importance of the invention. In the *Troy Sentinel* of Dec. 4th, 1829, is an account of the experiments with the locomotives offered for the prize of £500 by the directors of the Liverpool & Manchester Railway Company:

"The carriages entered were the following: 'The Novelty,' weight 2 tons, 15 cwt., by Messrs. Braithwaite & Erickson, of London; 'The Sans Pareil,' 4 tons, 8 cwt., 2 qrs, by Mr. Ackworth, of Darlington; 'The Rocket,' 4 tons, 2 cwt., by Mr. Robert Stephenson, of Newcastle-upon-Tyne, and 'The Perseverance,' 2 tons, 17 cwt., by Mr. Burstall, of Edinburgh.

Besides these, which were all moved by steam, there was another carriage brought to the ground, not so much as a competitor for the prize, as for the purpose of exhibition: it was moved by two horses, and was named the 'Cycloped,' weighing three tons.

The Rocket, without any load, went at the rate of 24 miles an hour, and with a load of 12 tons, 10 cwt., at the rate of 10½ miles an hour, for 14 miles. The course was 1 mile and ¾ long, with a furlong at each end for stopping, turning and getting under way. This was one exhibition. At another day, when the Rocket was put to work for the prize, she actually traveled 78 miles on the short course above named, with her loaded wagons attached, at the rate of eleven miles an hour, including stoppages. On another occasion, this carriage, wholly divested of all appendages, and with no weight but that of the engine carriage, ran seven miles in 14 minutes, which is at the rate of 30 miles an hour!

"But the performance of the Novelty was the most surprising. With a load of 6 tons 2 cwt., making with her own weight more than 10 tons, she went at one trial, at the average of 16½ miles nearly, on the short course referred to, and it was, on that occasion, judged that if she could have made a continued journey along the road, without wasting power and losing speed by frequent turning, she would easily have moved with her load, at the rate of 20 miles an hour! At another time, her wagons being unladen, 45 persons got into them, and she moved with them at the averaging rate of 32 miles an hour!

In the *New York Courier and Enquirer* of Dec. 1, 1828, is the following:

"LOCOMOTIVE ENGINES.—The experiments lately made in England with the Locomotive Engines on the various railways, have excited great surprise and admiration, and are opening a new era for the most extraordinary improvements in traveling ever made.

"A London paper referring to the subject observes:—

"The engine of Braithwaite and Erickson moved at the astonishing speed of 28 miles an hour. It seemed indeed (says a spectator) to fly—presenting one of the most sublime spectacles of human ingenuity and human daring the world ever beheld. It actually made one giddy to look at it, and filled thousands with lively fear for the safety of the individuals who were on it, and who seemed not to run along the earth, but to fly as it were on the wings of the wind. It was a most sublime sight—a sight indeed which the individuals who beheld it will soon forget."

"Should nothing intervene to check the

prospects which railways hold out, the improvement will carry us far beyond anything that steamboats can accomplish. A railway between New York and Philadelphia, with Locomotive Engines, would enable passengers to breakfast in this city, dine at Philadelphia, and return to New York to supper; and in the transportation of merchandise, will do away at once with water carriage. We live in a wonderful age, and nothing should surprise us."

This newspaper was not alone in foreseeing the importance of Stephenson's invention. The *Edinburgh Scotsman*, quoted in the *Troy Sentinel*, thus compares the importance of the political events of the time, with this discovery in locomotion.

"It is melancholy to observe how rarely objects, events, or individuals, are esteemed according to their importance. All the periodical pens in London are at this moment at work upon the Turkish Treaty, the New Police, Cobbett's Corn, Mr. Lister's Tragedy—and, perhaps, one or two most bloody and barbarous murders. We have columns and pages filled day after day with comments on these matters, which, two months hence, will be completely superseded by something equally ephemeral, while we have not seen in one of the metropolis prints a single remark on the experiments at Liverpool, which unveil mechanical truths of such stupendous importance, that, if objects are to be judged by their influence on the condition of man, the Russian Campaigns, the Catholic Question—nay, though some may stare, we will add—the French Revolution, sink into nothing in the comparison. How trifling was the effect produced by all the wars of the fifteenth century on the state of the world, compared with the discovery of Printing! And how little were the consequences of that discovery understood by the contemporaries of Faust and Gutenberg! The experiments at Liverpool have established principles which will give a greater impulse to civilization than it has ever received from any single cause since the Press first opened the gates of knowledge to the human species at large. They may be said to have furnished man with wings, to have supplied him faculties of locomotion, of which the most sanguine could not have dreamed a few years ago. Even steam navigation gives but a slight idea of the wondrous power which this new agent has put into our hands. It is not exaggeration to say, that the introduction of steam carriages on railways places us on the verge of a new era—of a social revolution of which the imagination can not picture the ultimate effects."

In the *Troy Sentinel* of Jan. 19, 1830, is the following extract from an English letter of two months' earlier date:

"You will be rather surprised when I communicate to you that the stockholders in the Sankey canal, the most profitable canal in this kingdom, rising from £100 to £1,800 per share, have had a meeting this week, as is most confidently believed, to take into consideration the expediency of letting it dry and laying a railroad on it, and they are about applying to Parliament for this liberty."

So it seems that too much was expected from railroads by some who witnessed their early successes.

Another article in the *Edinburgh Scotsman* comments upon the probable reduction of the cost of transporting freight and passengers, occasioned by the introduction of railroads and locomotives. It concludes that two shillings will be a paying rate of fare between Liverpool and Manchester, and five shillings

per ton will be a remunerating freight charge for the same distance. It adds:

"When the carriage of goods, which is now about 9d or 10d a ton per mile by land, is reduced to 2d, and when, in point of speed, one day does the work of four, the heaviest commodities, such as corn, potatoes, coals, will bear the expense of carriage for a hundred miles. The result will be that living in great towns will be reduced, and the price of raw produce will rise in remote parts of the country. The facility, celerity and cheapness of internal intercourse, contribute more, probably, to the advancement of civilization, than all other circumstances put together." The *Scotman* also estimated that travel would be prodigiously increased by the improvements rendering it cheaper and more rapid, and in this, as well as in its estimates concerning freight transportation, its good judgment has been proved by the result.

The Sault Canal and the Cleveland Board of Trade.

[From the Cleveland Herald.]

The Cleveland Board of Trade have adopted a memorial to the Michigan Legislature, urging on that body the propriety of ceding the Sault Canal to the United States. A resolution looking to the same end hangs fire in the Detroit Board of Trade, and on the latter we have already made some comments. The action of the Cleveland Board affords an opportunity of reverting to the subject and giving a few facts with which the general public may not be familiar.

In a very short time a new and important addition will be made to the commerce of Lake Superior. The completion of the Wisconsin railroads to the west end of the lake will bring to that point vast quantities of wheat seeking shipment to the lower lakes. The Northern Pacific Railroad, which is now to be built, will open up the finest wheat growing country in the continent, hitherto untilled. The product of that newly developed country will seek the nearest point of water transportation, which will be on Lake Superior, thus throwing a large amount of new business upon the canal, of a kind that was not taken into account when the work was planned.

It is a well-known fact among those engaged in business on the lakes that it cost but little more to run a large vessel than a small one, and that a large vessel can therefore make a long voyage with profit at rates which would ruin the owners of a small vessel. This fact has led to the construction, within the past five or six years, of vessels double the size of those formerly considered large. Instead of a tonnage of from 300 to 600 tons, vessels of a 1,000 tons are now engaged in the carrying trade of Lakes Michigan, Huron and Erie. They would be so employed also on Lakes Superior and Ontario, but for the insufficiency of the Sault and Welland Canals.

The class of vessels engaged in the commerce of Lake Superior, through the Sault Canal, ranged from 300 to 650 tons. That portion of the business which can be reached at Escanaba employs vessels of a greater tonnage, reaching up to a thousands tons, cargoes of iron ore of that size having been brought from Escanaba to this port. But Escanaba can not be made available as a shipping port for the great bulk of Lake Superior business, owing to the railroad transportation involved. The great avenue must be by way of the Sault. For the grain and other classes of trade to be thrown upon the

lake at its west end there will be no other available outlet.

To enable vessels of a size suitable for the present trade, and indispensable for the commerce of the immediate future, the Sault Canal will have to be sunk so as to permit a depth of water from 14 to 16 feet. We learn that the locks are probably wide and long enough, and that the work now required is to sink the bottom, strengthen the notoriously unsafe river side, and improve the approaches. To do this will, it is estimated, require an appropriation of about \$200,000. The product of the iron mines of Lake Superior last year was \$3,900,000 of which about two-thirds came below by way of the canal. Of the whole amount no more than one-fourteenth went to the Lower Peninsula of Michigan. The remainder was taken to the lower lakes and entered into the manufactures of other States than Michigan.

Of copper the proportion stopping in Michigan is still less, nearly the entire product being consumed by the States to the south and east of the lower lakes. The future grain trade and general commerce that will seek an outlet through the canal, will pass down the lakes with scarcely an infinitesimal fraction rubbing off on the lower Michigan shores in passing.

Is it right that the door of this important commerce, in which so many States are interested, should remain in the sole keeping of Michigan, one of the least interested of those States? Is it right that great national commercial interests should be jeopardized because Michigan is unable, or unwilling, to afford the proper facilities for transit through its (accidental) territory?

The welfare of the Sault Canal concerns Ohio and Western Pennsylvania more than it does Michigan, and at a very early day New York will be equally, if not more largely, interested in the matter. If Michigan will yield with a good grace, we have no doubt Congress will gladly assume the charge of the canal.

A WONDERFUL INVENTION.—M. Touney's invention, it is predicted by the members of the French Academy of Sciences, will bring about a perfect revolution in the manufacture of printing paper. By his process old papers can be converted, in the course of a few minutes, into very white and nice paper. He first communicated his invention to M. Delahaye, a leading paper manufacturer of Troyes, who was so greatly surprised at what he saw that he exclaimed: "Touney, are you a wizard?" And when the inventor fully explained to him the particulars of his process, Delahaye added: "Good-by, paper mills!"

The Bay City (Mich.) *Journal* says that during the season of 1868, in all 1,101 vessels, reported at that city, and 1,723 cleared from the same port.

The following is the amount of lumber, salt, etc., shipped from Bay City, with estimated valuation:

Lumber	217,165,340 ft	\$3,158,475 00
Lath	12,679,000 pcs	25,358 50
Shingles	7,365,800	33,829 00
Staves	2,099,000	1,889,100 00
Salt	359,333 bbls	718,670 00
Square timber.	640,000 ft	1,004,850 00
Hoops	540,000	2,497 50

Total

In 1867 the valuation of shipments from Bay City amounted to \$4,500,000, showing an increase in 1868 of \$2,334,780.

ARIZONA.—The Hon. Richard C. McCormick, who went hence in 1863 as Secretary of Arizona, and has for the last three years been Governor of that Territory, returns to us as Delegate to the XLIII Congress, and will take his seat in the House on its organization next Thursday. Mr. McCormick has won golden opinions by his public services, as was evinced in his election as Delegate by the largest majority (620) ever given in the Territory.

Arizona is slowly but steadily gaining in population, industry and wealth; within ten years the Southern Railroad to the Pacific will make her a State, with a population of not less than Half a Million. Recent experience has shown that her soil has been greatly undervalued—that it produces most of the grains and grasses bounteously, while she has much valuable timber, and an incalculable wealth in the precious metals and copper. Mr. McCormick will prove a most capable and efficient Delegate, as he proved an admirable Secretary and Governor.—*New York Tribune*.

Hon. R. C. McCormick, fully deserves all that the *Tribune* says of him. It has our unequivocal endorsement.

MICHIGAN NORTHERN RAILROAD.—This is the title of a new company just formed under the General Railroad law of the State to construct a road 294 miles in length, extending from a point on the State line, in the township of Sturgis, St. Joseph County, northwards passing through the City of Grand Rapids to Traverse Bay, and thence to the Straits of Mackinaw, the railroad being located in the Counties of St. Joseph, Kalamazoo, Allegan, Kent, Montcalm, Newaygo, Mecosta, Lake, Osceola, Wexford, Grand Traverse, Kalkaska, Antium, Emmet and Sheboygan, and to be built with a "T" or continuous rail. The capital stock is fixed at \$2,500,000, divided into 25,000 shares. Eleven directors are named: R. Gardner, T. P. Sheldon, H. G. Wells, Geo. Goss, Kalamazoo; E. B. Dyckman, Schoolcraft; J. B. Millard, Three Rivers; Samuel Medbury, Detroit; L. H. Randall, Chester Warner, D. G. Clay, Grand Rapids; F. B. Gardner, Chicago. T. P. Sheldon has been made President of the company.

MISSISSIPPI RIVER LEVEES.—Mr. Theodore Cook, Chairman of the Committee of the Chamber of Commerce, to whom was referred the memorial of the New Orleans Chamber of Commerce relative to the reclamation of the alluvial lands of Mississippi, Louisiana and Arkansas, presented the report to the Chamber while in session to day. The committee deem that as the rebuilding of the levees will greatly contribute to the wealth and prosperity, not only of the Southern States, but of the whole country, and whereas, the impoverished condition of the people, and credit of the States of the South disable them for the sufficient repair of those improvements, it becomes advisable for the General Government to indorse bonds for the purpose, and for the States wherein the work is performed to provide for the payment of the interest and principal on the same in some ample form.

The increased area of production, not less than the enhanced value of the lands to be acquired thereby, is urged upon Congress as deserving of their earliest and most considerate attention. The President of the Chamber announced that special consideration upon the report would be held to-morrow afternoon, at the close of 'Change.

Regarding assistance to the levee repairs

from the Government, we deem the opinion expressed by Mr. Cook and the others of the committee to be dictated by a wise judgment, a liberal principle and an enlightened estimate of the importance of the project to the nation at large. The statement as to Grant's objection to any aid in that direction, are much to be doubted, and at any rate the proper presentation of the facts before Congress are quite likely to give to him an insight with respect to its commercial value, which, if he has so expressed himself, will lead to conviction otherwise.—*Times*.

LONG LINES VERSUS SHORT LINES are the subject of the following argument, which appears in the New York *Tribune*:—"The early theory in practical rail-roading, which demanded short roads with large way business as conditions of the largest profit, must yield to the result of actual experience. That experience would seem to demonstrate that the longest lines of road (other things being equal) are always the most profitable. The last year's earnings upon the New York Central, the New York and Erie, and the Pennsylvania Central are instances in proof of this. The New York Central's earnings per mile figure at \$46,997, the New York and Erie at \$31,254, and the Pennsylvania road \$48,545. The Union Pacific is a much longer railroad. Should its annual earnings per mile reach the average of these roads—say \$42,265—the result on 1,100 miles of road would be \$46,491,500, in the year. The United States Senate Committee, in reporting upon the further subsidies to other Pacific railroads, state as their official opinion, that the amount of freight and travel which would press upon the Union Pacific when it is opened, would be more than could be moved upon a single track."

HE STILL LIVES.—The Philadelphia Telegraph says: "On Thursday last John Ericsson, the celebrated inventor and engineer, died at Richland, New York, from hydrophobia, caused by the bite of a dog several months ago"—and proceeds to give a detailed account of the Captain's life and achievements, ranking him among the greatest men of the age. The dead man's name is Eckerson, and Captain John Ericsson hopes to live long enough to make his solar engine as great a success as the screw propeller and the calorific engine—the two great triumphs of his inventive skill to which he owes his fame. Meanwhile, as inventors rarely have so good a chance to learn what people think of them, it is to be hoped that every country paper which has attempted his life in a friendly spirit will send a copy to the subject. He is one of the men of whom, dead or alive, few will be disposed to say any thing but good.

T. F. Randolph,

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This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the long-end package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2 1/2 inches in width, and under. For Tickets over 2 1/2 inches in width.

SIZE NO. OF NO. FORMS.	PRICES.	SIZE NO. OF NO. FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms and also with working plans, if desired.

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 L. WILLIAMS, Ass't Sup't, C. H. & D. R. R., Cincinnati.
 J. H. WFLER, Ass't Sup't, D. & M. R. R., Dayton, O.
 D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati.
 J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton.
 C. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., Indianapolis
 [Aug. 2, 1886.]

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 out piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP.

WITH THE

STEAM SYPHON WATER-STATION

a locomotive can raise water, with its own steam, to fill
 its tender in the same time as from an ordinary tank;
 thus dispensing with tanks, pumping ma-
 chinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops
 Shops, Elevators, &c.,

AND BY FAR,

THE BEST BILGE PUMP,

for Steam Vessels, in use

For Circulars and other information, address,

STEAM SYPHON COMPANY,
 48 Day Street,
 NEW YORK.

VERY CHOICE**Oil Lands**

IN

Kentucky & Tennessee,

FOR SALE BY

T. WRIGHTSON,

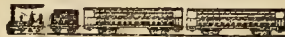
167 Walnut Street,

CINCINNATI

THROUGH —FROM— CINCINNATI TO NEW YORK

WITHOUT CHANGE OF
COACHES!

—VIA—

Atlantic & Great Western R'y.

PASSENGERS leaving CINCINNATI by the A. & G. W.
 Railway, on Saturday Morning, by the 6:00 a.m. Lightning
 Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next
 day, Sunday

2 Through Lightning Express Trains for New York
 Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6,15am.....	7,10pm
" Dayton.....	8,35 ".....	9,30 "
Arrive West Salem.....	1,50pm.....	4,53am
" Leavittsburg.....	4,55 ".....	7,35 "
" Meadville.....	7,35 ".....	11,10 "
" Susquehanna.....	7,48am.....	11,29pm
" Paterson.....	2,25pm.....	6,03am
" New York.....	3,15 ".....	7,00 "
" Boston.....	5,45am.....	4,45pm

Sleeping Coaches on Night Trains the entire distance
 between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday
 night instead of Saturday night. All other
 Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS

At Salamanca with Erie Railway
 At Mansfield with Pitts. Ft. Wayne
 and Chicago Railroad.

THIS IS THE ONLY ROUTE

TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely
 new, of the most modern, substantial, and approved de-
 scription, unequaled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all
 Trains.

Ample time is allowed, at all hours,
 for meals.

No effort will be spared by the Company to render a trip
 over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!**FOR THROUGH TICKETS AND BAGGAGE CHECKS,**

Apply in Cincinnati at New Depot of Cincinnati, Hamilton
 and Dayton Railway; or at northeast corner of Broadway
 and Front streets, and at No. 80 Fourth street, nearly op-
 posite Post Office. Also at any of the principal Railroad
 and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. BUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.

On and after Monday, May 21, 1886, three Express
 Trains will leave New York daily (Sundays excepted) via
 Central Railway of New Jersey, and Allentown, leaving
 Pier 15 foot of Liberty street, North River, at 7:00 and
 9:00 a.m. and 18:00 p.m. On Sundays, one Express Train
 at 8:00 p.m.

Passengers by this route save 60 to 130 miles, and Two
 Hours' Time over other Lines, with but one change;
 cars to Chicago or Cincinnati, and but two to St. Louis.
 Passengers from the East by Sound Boats or by Rail in the
 morning, will have time for Breakfast before leaving the
 City. Fares always as low as by other Lines.
 State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from lot of Liberty street, N. E.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives
 at Harrisburg 2 p.m., Pittsburg 12 light

9:00 a.m.—MORNING EXPRESS, for the West. This
 train leaves New York Two Hours later than other Lines,
 and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with
 Lehigh Valley Railway to Mauch Chunk; at Reading with
 Philadelphia & Reading Railway for Pottsville, arrives at
 Harrisburg at 4:30 p.m. Without change of cars from
 New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with
 but one change to Cincinnati or Chicago, and but two to
 St. Louis. This train leaves New York Two Hours later
 than other Lines, and arrives at principal places West at
 same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives
 at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN, from the West, leaving
 Pittsburg at 4:20 p.m.; passes Harrisburg at 3:00 a.m.;
 Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at
 6:09 a.m. Through cars from Pittsburg to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pitts-
 burg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Read-
 ing at 10:52 a.m.; Allentown at 12:22 p.m.; Easton at
 12:30 p.m. Through cars from Pittsburg to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing
 Reading at 10:40 a.m.; Allentown 12:20 p.m.; Easton
 at 1:35 p.m. Through cars from Harrisburg to New York.
 Arrives in New York at 5:20 p.m.

2:10 p.m.—FAST MAIL, from the West, leaving Pitts-
 burg at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Read-
 ing at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at
 7:20 p.m. Through cars from Harrisburg to New York.
 Arrives in New York at 6:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI**RAILROAD.****Three Through Trains Daily.**

	Leave.	Arrive
St. Louis & Chicago Ex.....	7 00 A. M.	9 10 A. M.
Springfield & St. Joseph Ex.....	12 00 P. M.	4 30 P. M.
St. Louis & Chicago Ex.....	4 55 P. M.	12 15 A. M.

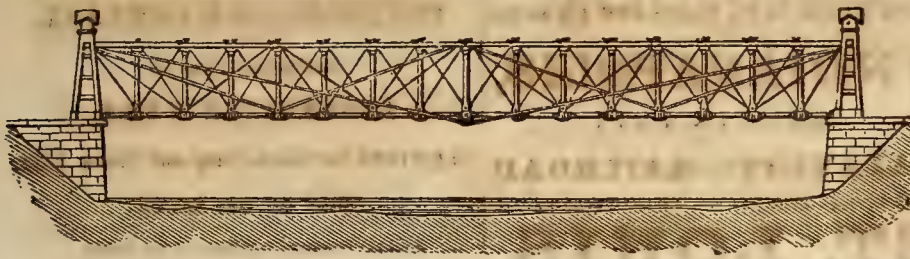
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Ac- commodation.....	5 15 P. M.	5 05 A. M.
Harrison Accommodation.....	10 10 A. M.	2 25 P. M.

Through Tickets can be obtained at the Burnet House-
 Spencer House and Gibson House Offices; also at the
 Depot. The Passenger Depot of the Indianapolis & Cin-
 cinnati Railroad is within a few squares of all the pri-
 cipal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
 F. B. LORD Gen'l Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1392.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and railroad work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and construction of all the details. Our long experience and opportunity of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tires (to fit centers without boring), Composition Castings for Bearings, every description of Copper, Sheet Iron and Boiler Work; and every article pertaining to the repair or renewal of Locomotive Engines.

KNOX & SHAIN,
ENGINEERING & TELEGRAPHIC

INSTRUMENT MAKERS

Philadelphia, Pa.

W. M. F. HEWSON,

STOCK BROKER,

21 WEST THIRD STREET, CINCINNATI.

Buys and sells Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collections.

AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

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GEORGE T. JONES
S. E. Cor. Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburgh without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads, still continues to transport produce and merchandise between Cincinnati and Pittsburgh, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent
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Pittsburgh, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

[WITH

Productive Wells all

around them.

FOR SALE BY

T. WRIGHTSON

167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

—IN—

Railroad, Car and Machine Shop

SUPPLIES,

—AN—

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
3.0 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS.

FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, an one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.
Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly to sent for the celebrated Wheels, either single or double plate with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner the shortest notice, and on the most reasonable terms.

PASSENGERS

Purchasing Tickets via

Baltimore & Ohio R.R.

-TO-

BALTIMORE,**PHILADELPHIA,****NEW YORK, and****BOSTON,**

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON

Fare to Washington City same as to Baltimore.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
N. O. W. BROWN, General Passenger Agent.

} Dec. '67.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Burnet House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.**JANUARY 5th, 1868.***Cincinnati to St. Louis Without Change of Cars.***Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI, 7 45 a.m.	10 10 p.m.	4 00 p.m.	
Arrive SEYMOUR, 12 00 m.	2 00 a.m.	8 10 "	
Leave " 12 20 p.m.	2 10 "		
Arrive VINCENNES, 5 15 "	6 35 "		
Leave " 5 20 "	6 40 "		
Arrive ODIN, 9 35 "	10 30 "		
Leave " 9 45 "	10 40 "	6 30 a.m.	
Leave SANDOVAL, 9 55 "	10 50 "	6 45 "	
Arrive ST LOUIS, 1 00 "	1 30 p.m.	9 40 "	
Trains Arr. at Cinc'ti, 6 10 a.m.	11 30 p.m.	12 00 m.	

For tickets, or information apply at Offices, 132 Vine Street; Corner Front and Broadway; and at Depot, Foot of Mill Street.

C. E. FOLLET Gen. Passenger Agent
J. W. CNLOGUE, General Superintendent.

Best Route to St. Louis and Chicago

INDIANAPOLIS, CINCINNATI

-AND-

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS, CAIRO, CHICAGO,Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha
And all Rail and River Towns and Cities in the West, North west and South-west.**5 THROUGH TRAINS DAILY,**

(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express...	7:00 am	10:50 pm
Indianapolis and Cairo Express.....	6:00 am	2:30 am
Cairo and St. Louis Express.....	3:00 pm	4:08 pm
Springfield, Quincy and St. Joseph Express.....	3:00 pm	4:08 pm
Chicago Lightning Express.....	6:50 pm	11:30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11:00 pm	6:15 am

No change of cars between Cincinnati, St. Louis and Chicago.

Elegant Sleeping Cars on all night trains.

ACCOMMODATION TRAINS.

	Leave	Arrive.
Lawrenceburg Accommodation.....	10:00 am	8:35 am
Harrison.....	5:30 pm	9:15 am
Lawrenceburg.....	4:45 pm	2:00 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.

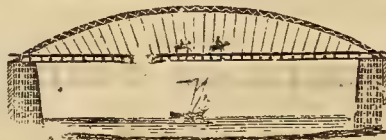
A. E. CLARK, General Ticket Agent.

MOSELEY'S WROUGHT IRON ARCH**BRIDGES,**

AND

CORRUGATED IRON ROOFS

ARCHED AND FLAT.



(CORRUGATED SHEETS, OF ALL SIZES, constructed on hand, painted, and ready for shipment, with instructions for applying them.)

MOSELEY & CO.
Boston, Mass.**EDWIN J. HORNER,**

Successor to

McDANIEL & HORNER.



Locomotive and Railroad

CAR SPRING MANUFACTURER,

Wilmington, Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods,

Bar of all Sizes,

And all Forgings for Railroad Machinery

Lewistown, Mifflin Co., Penn

JOHN A. WRIGHT, Sup't.

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works June 9

THE SCHENECTADY LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.,

Continue to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING LOCOMOTIVE ENGINES

AND OTHER

Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding their work to any part of the country without delay.

JOHN ELLIS, President.

WALTER McQUEEN, Sup't.

PASCAL IRON WORKS.

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1/4 to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from 1/2 inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1/4 to 24 inches in diameter, and branches for same, &c., Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. P. M. TASKER
BY G. MORRIS.

Philadelphia, Wilmington & Baltimore

RAILROAD!**FOUR PASSENGER TRAINS DAILY**

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. ExpressSUNDAY TRAINS.—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave at 11.00 P. M. for Philadelphia at 8.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

"As the average of these learned, but conflicting authorities, I think I am justified in assuming the estimate of Dr. Lees; and I shall accordingly put the metallic circulation

of Great Britain at 80,000,000 sterling, or \$100,000,000. The total circulation of the United Kingdom, coin and paper, will then stand as follows:

Gold and silver.....\$400,000,000
Less in banks, Aug.
1868.....131,000,000
\$269,000,000
Bank notes, August, 1868.....\$196,000,000

Total circulation.....\$465,000,000
"This, with 30,000,000 of people, gives \$15 50 a head."

The currency of France he gives:

"The total circulation of France will then stand as follows:
Gold and silver.....\$700,000,000
Less in bank Oct. 1,
1868.....255,000,000
\$445,000,000
Bank notes October 1, 1868.....252,000,000

Total circulation.....\$697,000,000
"Which, with a population of 38,000,000, gives \$18 34 a head."

The paper currency of the United States (greenbacks or National Bank notes) is \$721,000,000. We have large amounts in gold, but, as gold is not now currency, (but only merchandise) the paper money is our whole circulation. The comparison of our currency with that of Great Britain and France, may be seen in this table:

	Circulation.	Popula'n.	Money Per head
France.....	\$697,000,000	38,000,000	\$18 34
Great Britain.....	465,000,000	30,000,000	15 50
United States.....	721,000,000	37,000,000	19 50
Average.....	\$1,883,000,000	105,000,000	\$17 93

Here are the three great controlling commercial nations of the earth, having one hundred and five millions of people, with an average circulating medium of \$17 93 per head. The United States have an average of \$1 57 per head more. If we reduce the circulation to that of the average, it will reduce the currency \$55,000,000. If we reduce it to that of Great Britain, it will be reduced \$148,000,000. Now, it is perfectly obvious that the country will not stand a reduction of more than that. Indeed, if that reduction were made in one year there would be an universal outcry. By some comparisons of the currency in past times with the increase of wealth, commerce and population, we arrived at the conclusion that the easy transaction of business in this country requires at least \$600,000,000 of currency, and the above table would seem to show that we require more, rather than less. If there be any doubt on this subject, let the Secretary of the Treasury be directed to reduce the currency even so slowly as five millions per month. Then it will soon be seen whether commerce requires it, or the country will stand it. We should like to see the experiment tried; but it is perfectly certain that the currency could not be reduced one hundred millions before it would be felt in all branches of business. Nevertheless, we think the discount on our currency can not be reduced without some reduction of the amount.

This reduction need not proceed very far before the effect of the experiment would be fully known, and the future of the Government, in regard to currency, could be regulated accordingly.

Report on the Grand Rapids and Indiana Railroad.

IMPORTANT RECOMMENDATIONS.

The following very important report will be read with interest. The citizens of Fort Wayne are particularly pleased with the result, and assure us that capital will be had from Eastern sources to push the enterprise through, and save the great interests involved in it. We are pleased to know that a little conflict is closed, and would now suggest that the two interests unite, and, by a common effort, secure the rapid success of the work:

REPORT.

Your committees, to whom was referred the following bills:

"A bill to forfeit certain lands, privileges and franchises heretofore granted to the Grand Rapids and Indiana Railroad Company, and to confer the said lands, privileges and franchises upon the Michigan Northern Railroad Company."

Also "A bill to confirm to the Grand Rapids and Indiana Railroad Company certain lands granted to said corporation in aid of the construction of its road."

Also, a large number of petitions and remonstrances for and against both roads,

Respectfully submit the following report:

Your committees are fully impressed with the importance of the subject, submitted for their consideration. Its decision will powerfully affect not only the settlement and growth of the entire northern portion of the Lower Peninsula, which has suffered and is suffering greatly from the withholding from market of an immense tract of land (amounting in the aggregate to about 1,200,000 acres and embracing much valuable agricultural land), and from the consequent retarding of settlement and the exclusion of those who may have settled upon the unreserved lands from all the benefits of schools and public roads and from the advantages attending social intercourse, all of which is the immediate and direct result of the locking up of the alternate sections. That decision will also affect the interests of the entire State in its growth in wealth and population. The welfare of the part is the welfare of the whole, and our action now is to bear most directly upon an evil of vast magnitude, namely: the past sending of immigration by us to less favored localities in the Far West, because our most available lands have been tied up by our land grant policy, the result being the growth of Territories into States during the time this vast domain in our own borders has been under the control of railroad companies. Had the North been wholly open and free for settlement during the past 15 years, our history would have been far different, and no policy could have been more detrimental to the State at large than has been that which was instituted by the land grants of 1854.

The foregoing facts are especially true with regard to the land grant made to the company now under consideration, and it is only just to say that the people feel that they have been

trifled with, and that their most important interests have been disregarded; and they now demand that the Legislature of the State shall no longer permit railroad companies to dally with their rights. The questions now under consideration have ceased to be local in their nature; their effects are felt throughout the entire length and breadth of the State; and action upon them has become a duty that we, as legislators, can not avoid, if we would.

Such action, however, is surrounded with difficulties. While an incubus has been resting upon the north of the State, interests have grown up and developed in the south that have also claimed the attention and commanded the consideration of your committees. The deep public interest felt in this question is shown by the large number of petitioners who have addressed the Senate during the time this matter has been under consideration, of whom an aggregate of 2,336 have asked for an immediate transfer of the land grant to the Northern Michigan Railroad Company, and 3,375 have protested against any legislation unfriendly to the Grand Rapids and Indiana Railroad. Those petitioning for the transfer of the grant represent mainly the interest of the northern portion of the State, while those protesting against such change represent the local interest along the line south of Grand Rapids and in that city. Considerable work has been done by the company along the line between Grand Rapids and the Indiana State line. Municipal aid has been granted to it in this region by townships and cities to an amount approximating \$300,000, and has been expended in the construction of the road-bed, the purchase of ties, the building of bridges, etc. Villages have grown up along its line in anticipation of the benefits to be derived from its completion, and some of these are to-day municipalities with a population of from 500 to 800, whereas, when the road was originally projected, they did not contain 50 inhabitants.

Now, while it is primarily our duty as legislators to so frame our laws that our State may be rapidly filled up, that the wilderness and the solitary place shall be glad for them and the desert shall rejoice and blossom as the rose, that the forests upon our valuable agricultural lands in the North may fall and the lands may produce and bring forth both ear and fruit, that the advantages of schools and school systems may be extended into the wilderness, and that our "noble State" may be so built up and enriched as to speedily take her destined place among the first of the sisterhood of States in population and in wealth—while our duty in all these respects is plain, still we should not forget, in our eagerness to press forward, those among us and of us that we may leave behind, and unquestionably we should so endeavor to legislate as, if possible, to protect the rights of all. It was with this intention that your committees entered upon their task.

It is proper at this point to state parenthetically that in the language used in this report, your committees do not desire to be understood as censuring the company under consideration nor any of its managers, for not having done more. On the contrary, they are surprised that with the little of capital or financial influence it has ever possessed it has done so much, and they are inclined to give it and its managers due credit for perseverance under obstacles that ought, so far as the State is concerned, to have long since proved insurmountable.

The interests involved in the bills referred have been represented before your committee

by able and learned counsel, and to their eloquent arguments upon their respective sides of the controversy, your committees have listened with patience and interest. It was contended that the Grand Rapids and Indiana Railroad Company had no corporate existence in law; that the Legislature could wisely take the land grant into its hands, and transfer the same to a company that possesses life and vitality under the law; that the legislation of 1867, being to a non-entity in law, could be so treated, and that for this purpose it was not necessary to wait until the expiration of the time fixed by the Legislature of 1867 for the completion of the second 20 miles of road, viz: the first day of July, 1869. Upon the other hand it was claimed that the Grand Rapids and Indiana Railroad Company was a corporation *de jure* and *de facto* known and recognized by the laws of the State, and that it has a vested right, of which it can not be deprived by the State either in law or in justice; to have until the aforesaid first day of July, 1869, to complete the 20 miles of its road north of Cedar Springs. By the last named of the bills referred this company also asks for the confirmation to it of the lands to which it has become entitled in consequence of the completion of the 20 miles of road north of Grand Rapids prior to January 1, 1868, and for such legislation as will in the future pass over the right, title and interest of the State in and to the lands earned under the acts of Congress and of this State, to the Grand Rapids and Indiana Railroad Company, "its successors or assigns," as fast as 10 miles of the road shall be completed.

It has also been claimed heretofore, as your committees are informed, that, as the act of 1867 did not particularly specify the 20 miles to be constructed, it would be a compliance with the letter of that act to construct the second 20 miles (or the 20 miles that must be completed before July 1, 1869) south of Grand Rapids.

After a careful survey of all the facts in the case, your committee have unanimously arrived at the following conclusions:

First—That is not within the legitimate sphere of our duties as legislators to determine whether the Grand Rapids and Indiana road is or is not a corporation *de jure*; that no determination of a legislative body could have any conclusive or effectual result in that direction; that that question could only be properly passed upon by the courts; that it is our duty to treat the company as a corporation *de facto*; and that under such circumstances the Legislature can not interfere with the legislation of 1867, even if we should desire so to do.

Second—That it is desirable that legislation shall be had to the following ends:

1. To provide for a confirmation to the company of the title of the State in and to that portion of the lands granted by Congress that is opposite to and coterminous with the section of the road already completed.

2. To provide for the completion of 20 additional consecutive miles north from Cedar Springs by January 1, 1871, and the confirmation of the title to the lands thereby earned.

2. To provide for the construction of at least 20 consecutive miles yearly thereafter, and for the confirmation of the title to the lands, as aforesaid.

4. To provide that the railroad when constructed shall be free from restraining contracts upon its freight and passenger traffic,

and shall afford equal facilities to all connecting railroads.

5. To provide that, in case of the company's failure to comply with the terms of the legislation of 1867 by the completion of the 20 miles north of Cedar Springs by July 1, 1869, or to construct the next 20 consecutive miles north by January 1, 1871, or to construct the 20 consecutive miles yearly thereafter, the Board of Control shall at once pass the land grant to some other company that will take it subject to the same conditions and restrictions, as far as the same shall, in the opinion of the said Board, be practicable.

5. To provide that, if the grant shall be passed over to any other company, such company shall either construct its road from Grand Rapids south, on the located line of the Grand Rapids and Indiana Railroad Company, or shall pay to the municipalities on such line the full amount of the municipal aid granted by them that has been expended on the road.

It has not seemed to your committees to be the duty of this Legislature to designate any particular company to which, in case of the forfeiture of its lands by the Grand Rapids and Indiana Railroad Company, the grant should be transferred by the Board of Control, as they believe that by the act of 1857 such Board is vested with full powers in the matter, and that its judgment would be as satisfactory as could be that of the Legislature upon this subject. Your committees, however, would feel that they were not dealing justly with the managing officers of the Northern Michigan Railroad Company—gentlemen who have exhibited such energy and ability in the construction of the railroad from White Pigeon to Grand Rapids—if they should pass them by without remark, and they, therefore, take this occasion to say that the industry, enterprise and fixedness of purpose exhibited by these gentlemen heretofore in railroad matters are of themselves most powerful guarantees that if the land grant shall ever be transferred to the company they represent, the railroad will be completed at the earliest possible moment.

With the view of carrying out their recommendations, your committee report a substitute for both the bills originally referred

[The bill in question embodies the points set forth in the foregoing report.]

The report was accepted and the bill was read a first and second time and placed on the order of third reading.

SHADE PRODUCED BY LIGHT.—A curious illustration of the distinction between the actinic and the luminous quality of light has been recently communicated by the well-known photographer, Mr. Rejlander, to the *Photographic News*. A few days ago he was producing a portrait in the open air, a little after seven in the evening. The setting sun, low in the horizon, illuminated all objects on which it shone with a yellow glow; whilst the opposite arch of the sky was bright, clear and blue. On examining the sun-illuminated image on the ground glass, Mr. Rejlander was struck with the fact the side which was practically in shadow was much more actinic in color than the rest, and was convinced that the side of the face on which the sun shone would, in the picture, be the darkest side, whilst the opposite and apparently shaded side the lightest. Such was indeed the result; and the very fine print obtained illustrates the odd phenomenon of sunlight being represented by shadow in a photographic image.

Aid to Railroads.

Now that the people of our State are agitating the question of such a Constitutional reform as will enable counties, townships and cities to aid in the construction of railroads, we present below a Bill, that after mature deliberation, has passed the Legislature of the State of Michigan, and is the law of that State.

Something of this kind is imperative in Ohio, and our legislators will be profited by a perusal of this measure:

BILL.

SECTION 1. *The People of the State of Michigan enact*, That it shall be lawful for any township or city to pledge its aid to any railroad company now chartered or organized, or that may hereafter be organized, under and by virtue of the laws of the State of Michigan, in the construction of its road, by loan or donation, with or without conditions, for such sum or sums not exceeding ten per centum of the assessed valuation then last made, of the real and personal property in such township or city, as a majority of the electors of such township or city voting, shall, at a meeting or meetings called for that purpose, determine: *Provided*, That the total amount of outstanding indebtedness, exclusive of interest thereon, of any such township or city, incurred for any and all railroads shall not exceed ten per cent. of the assessed valuation of the same at any one time: *Provided*, That the amount, exclusive of interest thereon, which shall become due or collectable in any one year, shall not exceed two per centum of the assessed valuation of such township or city, at the time of issuing the same: *And provided further*, That the total amount which the city of Detroit may raise for such purposes shall not exceed five per centum of the assessed valuation of the real and personal property of said city.

SEC. 2. It shall be the duty of the Supervisor of any township, and the Mayor of any city to call a meeting or meetings, of the electors of their respective township or city whenever a request in writing to do shall be made by thirty tax-paying electors of such township or city, and to give public notice thereof, at least twenty days previous to holding such meeting, by posting the same in not less than five of the most public places in such township or city, and by the advertisement of the same in some newspaper, published in the county wherein such township or city shall be: *Provided*, In the case of cities or townships in which a daily or weekly newspaper shall be published, such publication shall be made in such newspaper, at least once in each week for three successive weeks next previous to the holding of such meeting: *And provided*, In the case of the city of Detroit, such notice shall be published in at least three daily newspapers for ten consecutive days previous to the holding of such meeting. Such request and notice shall specify the amount of aid, the conditions, rate of interest, the time of payment and manner of executing the bonds, and other particulars in regard to such aid not otherwise provided herein: *And provided further*, That no township or city shall under the provisions of this act, hold more than two meetings in any one year, unless a majority of the tax-paying electors of such city or township shall sign such request in writing therefor.

SEC. 3. At such meeting or meetings the township, city or ward inspectors of election shall act as inspectors of election; the electors shall vote by ballot (such ballot to contain the words "aid to railroad—yes," or "aid to railroad—no," as the case may be) and shall be

subject to challenge as at other township or city elections; and the proceedings at such meetings to be held under the provisions of this act, shall, in the case of townships, be governed, so far as they may be applicable, by the general laws of this State, relating to township elections, and, in the case of cities, by the laws regulating their respective municipal elections, and illegal and fraudulent voting shall be punishable in the same manner and to the same extent as at other township or city elections. A copy of the request, and also of the notice required by the provisions of section 2 of this act, shall be entered at large upon the records of the township or city, together with a statement of the result and other essential particulars, and a certified copy of such record shall be in all courts and places *prima facie* evidence of the facts therein set forth.

SEC. 4. Any township or city that may avail itself of the benefits of this act by voting aid to any railroad company, as provided herein, shall, within 60 days after the question of aid is determined by a vote of the electors of such township or city, as provided in section 3 of this act, issue its coupon bonds for the amount so determined to be granted, which bonds shall be in sums not less than \$100 each, and not more than \$1,000 each, and shall be payable at any time as determined upon by the electors of such township or city, not exceeding twenty years from the date thereof. Such bonds shall bear interest at a rate not exceeding ten per cent. per annum, and shall have attached thereto the necessary and usual interest coupons, corresponding in dates and numbers with the bonds to which they are attached, which shall be signed by written signatures by the same person or persons executing such bonds. Such bonds shall, if issued by a city, be executed by the Mayor and Clerk or Recorder thereof, as the case may be, under the seal of said city, and, if issued by a township, they shall be executed by the Supervisor and clerk thereof, and if any city or township issuing such bonds shall have a seal, the same shall be impressed upon each of such bonds. The bonds and coupons attached thereto shall be payable at the office of the Treasurer of the county in which such township or city may be situated.

SEC. 5. Whenever any such bonds as provided by the provisions of this act shall have been issued as therein specified, the same shall be delivered by the person, persons or officers having charge of the same to the Treasurer of this State, who shall give a receipt therefor, and hold the same as trustee for the municipality issuing the same, and for the railroad company for which they were issued, and to be disposed of by said Treasurer in discharge of his trust as hereinafter provided.

SEC. 6. Upon the receipt of any such bonds from any township or city, in aid of any such railroad company, the Treasurer of this State shall immediately register or record the same in a book or books to be kept by him for that purpose, in his office, which record shall show the amount, date and number of each bond, the rate of interest which it bears, by what township or city issued, to the benefit of what railroad company the same are issued, and the time when payable, which record shall be always open for the inspection of any citizen of this State, or other interested person. Such bonds shall be safely kept by said Treasurer, for the benefit of the parties interested, and be disposed of by him in the following manner: That is to say, whenever any railroad company, in aid of which any of such bonds may have been issued, shall present to said Treasurer a certificate from the Governor of this State that such railroad company has in all respects complied

with the provisions of this act, and is thereby entitled to such bonds, the same, or such of said bonds as said company shall be entitled to receive, shall be delivered to said company, the Treasurer first cutting therefrom, canceling and returning to the municipality the past due coupons. The Treasurer shall endorse upon each of said bonds the date of such delivery, and to whom the same was delivered, and the same shall draw interest only from the time when so delivered, the treasurer shall notify the clerk of the township or recorder or clerk of the city issuing the same of the date of delivery of its bonds to such railroad company. The railroad company so receiving such bonds shall pay the State Treasurer one-tenth of one per centum of the par value of such bonds so delivered, which shall be received by him in full payment of all fees and charges for the custody, recording, endorsing and delivery of said bonds, which money shall be paid into the State Treasury. And in case any bond so delivered to said treasurer by any such township or city shall not within three years from the time when the same were received by him, be demanded, in compliance with the terms of this act, the same shall be canceled by said treasurer, and returned to the proper officers of the township or city issuing the same.

SEC. 7. In case of any city or township issuing bonds as heretofore provided in this act, shall fail to pay the bonds or interest coupons, or to deposit with the treasurer of the county in which such township or city is situated, a sufficient sum of money to pay the bonds or the coupons, which it may have issued aforesaid, which may then be due, as by the terms of said bonds or coupons, the county treasurer of such county shall certify the same to the clerk of the Board of Supervisors of such county, or in case of the city of Detroit, to the Assessor thereof, stating the amount so due and unpaid by such townships or city, whereupon the board of supervisors of such county, or such assessor, as the case may be, shall cause the same to be assessed, levied and collected from such townships or city, with other county or city taxes, and in like manner, adding to the amount thereof, interest at the rate specified in said bond, for one year, and the same shall be paid to the county treasurer by the treasurer of such township or city, and upon the receipt of such money, the county treasurer shall pay to the holders thereof the principal or interest for which such money may have been collected, with the interest thereon, and cancel and return such bonds or coupons to the township or city to which the same may belong.

SEC. 8. In case any township or city shall avail itself of the benefits of this act, by the issue of bonds or other evidence of debt, in aid of any railroad company, as by this act provided, such township or city shall, each year, by its proper authorities, after receiving the notice as herein provided, from the State Treasury, of the delivery of its bonds to the proper railroad company, so long as such bonds or evidence of debt remain unpaid, levy, assess and collect upon the taxable property of such township or city, a sufficient sum of money to pay all bonds or interest upon the same, as either the bonds or interest thereon shall become due; and the full faith and credit of any township or city so issuing any such bonds or other evidence of debt is hereby pledged for the full payment of both principal and interest thereon; and the same are made hereby, a valid and legal charge upon the taxable property of the township or city issuing the same.

SEC. 9. No such bonds or other evidences of indebtedness shall be delivered to such company until it shall have complied with the conditions voted and completed its road bed and ironed its road with the usual T, or such other rail as may be used by first-class railroads, through the municipality issuing the same, or to the termination thereof, if said road shall terminate therein; nor until said company shall have completed their road as aforesaid, through such municipality, or from the termination of said road if it terminates therein, to some connecting line of railroad duly completed and in full operation, or to the initial or starting point of such road. And in case such bonds shall have been issued by a municipality not upon the line of such road, the same shall not be delivered until said road shall be completed and ironed, as aforesaid, through the municipality adjoining; *Provided*, that in the case of the voting of aid by any township or city, located six miles or more from any part of said railroad, no such bonds shall be delivered until at least 20 miles of said road-bed and railroad shall have been completed and ironed, as aforesaid, from the terminus of said railroad nearest to such aiding city or township: *And provided further*, That in the case of the termination of said railroad, or the making of such crossing or intersection of another railroad, within the limits of any such aiding municipality, such bonds may be delivered when the said road-bed and railroad shall have been completed and ironed, as aforesaid, for the distance of six miles from such terminus or point of intersection.

SEC. 10. The provisions of this act are hereby extended so as to authorize any incorporated village to vote aid to the extent, in the manner, and subject to the conditions and provisions of this act in relation to cities. In case any township has not voted such aid, any village formed in whole or in part from such township may vote such aid, and when any such village has voted such aid, it shall not be liable for a further tax for that purpose by a vote of the township, and it shall be the duty of the President of any village to call a meeting or meetings of the electors of his village as provided in section number 2 of this act for cities and townships. The bonds contemplated in this act, if issued by a village, shall be executed by the President and Clerk and Recorder thereof, as the case may be, as provided for cities and townships in section number 4 of this act. *Provided*, That whenever a village has not voted aid to the full extent of the provisions of this act, a further aid by township or village may be granted to an amount equal to the difference between the aid already granted and the full amount permitted by the provisions of this act.

Railway Working Expenses.

It has long since become understood that the nicest question for the judgment of the railway engineer is, how far may he increase the original cost of his works with a view to the reduction of working expenses? It involves almost a hundred subsidiary questions as to the total length of line; the gradients and curves; topography of the district traversed; character of soil and rock, and habits or *regime* of streams; the value of land; the nature and especially the extent, of the expected traffic; the position of stations; the system of working, &c. Straight, level lines are, of course, always the best, where they can be made over open, level ground. Even in moderately rough ground, and in the valleys

There remains only one other source of supply; one as yet strange to our ideas, but which is already coming into play, and will extend its action year by year, until it results in changes as yet unforeseen. China, with its 400,000,000 of people, lies immediately opposite San Francisco; and the spell which so long forbade the immigration of its gain loving and energetic people being now fairly broken, there is nothing to oppose their swarming to fill up the vacuum. More than forty years ago there appeared in the transactions of some American historical society the strange narrative of an Indian wanderer who had made his way from the Atlantic States to within a day's journey of the Great Western Water, when he was frightened by tidings of "bearded men," described to be "white with long beards," who made slaves, it was said, of the natives. They are thick and short, had long heads, which were covered with cloth; they were always dressed, even in the greatest heat; had firearms, with powder and ball—pieces heavier than those of the Indians, but which would not carry so far. They came over the sea "in search of a dirty wood" (fustic, probably), "which dyes a fine yellow." Such is the earliest record, with which we have ourselves met, of Chinese commercial enterprise in America. That nation now furnishes a very large part of the population in the maritime parts of California; with sufficient demand, the supply is unlimited; and future days will, perhaps, witness a strange, peaceful contest between numbers, industry, dogged perseverance, and the communistic habits of the Asiatic race, always acting in mutual support, on the one hand, and the higher intelligence and individual energy of European blood on the other.

But there is yet another resource of a different order; perhaps more important than any of these, which the American will possess, in his struggle with the supposed difficulty with which we have threatened him. It will tax, to the utmost, one of his greatest qualities—his ingenuity, exercised in supplying deficiency and dearth of manual labor through machinery. It is, perhaps, the faculty of which we Western races in general have the greatest reason to be proud, as specially our own. It exists nowhere in the world except among us and our American descendants. But the latter, urged by necessity, have applied it, not, indeed, on a grander scale than ourselves, but more habitually, and with far greater versatility, nor is it possible to limit in imagination the extent to which their ingenuity in this direction may be stimulated by such a call on it as that which we anticipate. —*Pall Mall Gazette*.

NORTHERN PACIFIC.—The vitality of this scheme keeps it before the country, and will do so until its demands are heeded. Like all such works, it will "not down"—but, keep rising up forcing itself upon the public, and must be heard.

Yesterday the telegram brought us the following:

"Mr. Howard introduced a bill to grant lands to the Northern Michigan Railroad Company, in the extension of the Northern Pacific Railroad. Referred to the Committee on Pacific Railroads."

In a little while the Committee will act, and the merits of this great undertaking be again agitated. It needs but this to make converts of the most skeptical.

Wooden Railways.

BY D. S. HOWARD, C. E.

Notwithstanding the retrograde appearance in the use of wooden railways, they are fast forcing themselves into favorable notice. Since the first one built in this country, in 1860, by Mr. J. B. Hurlbert, for the exclusive use of his lumber mill, situated at Hurlbertsville, about five miles north of Boonville, on the Black River Railroad and Canal, public opinion seems to have been very favorably influenced toward them. Mr. Hurlbert has since constructed a similar railway, twenty-four miles long, from the Clifton iron ore beds in St. Lawrence County, New York, to the Ogdensburgh Railroad, which is now in successful operation, and has been examined by a correspondent of the *Philadelphia Press*, which publishes, from his notes, a very favorable account of its usefulness. An agent has also been sent from Canada to examine into its utility, whose report is also very favorable, as republished in the *Portage Lake Mining Gazette*, by which we are informed that a company has already been formed and directors chosen, for the purpose of building a similar road from Houghton and Hancock, on Portage Lake, in a northerly direction, twenty-five miles along the Mineral Range, for the use of the mines now open on the route.

There is also a company formed for the purpose of constructing a similar road from Carthage, Jefferson County, New York, northeasterly via Harrisville to St. Lawrence County, forty-seven and a half miles, a route well calculated to develop the rich iron ore district about Bonaparte's Lake, near the situation of the Alpine Iron Works, to the Ogdensburgh Railroad. The Black River Railroad, now completed to Lowville, will soon be extended to Carthage. This will be a great inducement for the two companies to iron the extended Harrisville road, thus completing the nearest route from New York City to the Canada line.

One of the favorable features of the wooden railway is that not a blow struck in the construction is lost in converting it into an iron road, it being one of the perfect progressive improvements.

COST OF CONSTRUCTION.

The Clifton road cost \$7,000 per mile, through a wild, mountainous region, traversed by deep ravines, rocky ridges and tortuous streams, one of which the road crosses eleven times in a mile. The grades are necessarily very high, having to rise 1,092 feet in twenty-two miles. In some places they are 300 feet to the mile. The curves, also, are of very short radius, some of which are not more than 450 feet.

The Carthage and Harrisville road will probably be built for less than \$5,000 per mile. The route is somewhat uneven, but not mountainous, and the two termini nearly on the same level with a surrounding country mostly settled.

The Portage Lake and Keweenaw Railway route is probably in a more feasible shape still, and, were it not for other considerations, the road could be built much cheaper than the Carthage and Harrisville road; but as no such work can be done there in the winter season, labor and provisions must be imported every spring for such purposes.

The following figures will show the estimated cost for one mile of the superstructure of the Carthage and Harrisville road, which

will vary in the construction of other roads, as the prices of labor and materials differ in other localities. The grading must be estimated, on all routes, according to the grade required, the character of the material, the contour of the country, &c.:

1,760 ties, 3 feet from center to center, at 10c	\$176 00
21,120 feet B. M. 4x6 maple rails, at \$15 per M	316 80
3,520 wedges, at 10c each	35 20
192 days' work, 5 rods per day for 3 men	382 00
10 per cent. for superintendence	91 00

Total cost of superstructure.....\$1,001-00

The grading costs from \$2,000 to \$6,000 per mile. The whole cost of the first road of the kind built by Mr. Hurlbert, mentioned above, was less than \$3,000 per mile, which is less than a good common road could have been made on the same route, with the same grade. The capacity of the two roads, at the same cost of construction, repairs and operation, is as one to twenty five.

The wooden railway is available at all seasons of the year, and may be made capable of carrying any load required, by increasing the width of the wheel and rail.

MODE OF CONSTRUCTION.

Round ties, about one foot in diameter, are bedded into the grade three or four feet apart, according to the size of rail to be used or load required. These ties are notched to a proper gauge to receive the rails, which are fastened by driving a hard wood key on the outside of the rail, so that when any part is too much worn or defective in any way it may be readily replaced. The butt-end of the largest ties are so placed alternately as to receive the ends of the rails where they meet on opposite sides. The meeting of the rails on both sides should never come on the same tie, which, in such a case, has a tendency to rock back and forth in its bed as the load approaches and recedes.

These roads are so eminently useful in so many instances where a limited private business is carried on, such as lumber mills of all kinds, iron works, paper mills, and all manufactories requiring the transportation of large amounts of raw material and heavy products, that we may soon see a marked difference in the success of these various operations, as well as the commencement of many others that could not be carried on at all without such facilities, thereby increasing the wealth of the country in proportion to the dormant energies they thus bring into requisition.

LYONS FALLS, Dec. 16, 1868.

OPERATIONS OF WESTERN RAILWAYS.—Notwithstanding all that has been said during the past year about financial depression, commercial insecurity and general stagnation of business, the published returns of fourteen Western Railways show an increase over the previous year of nearly four and three quarter millions, or over seven per cent. In a subsequent edition we propose to give a tabular statement of earnings for all lines in the country, and therefore withhold for the present, comparative facts, which might prove very instructive to many of our readers. One important fact, however, may be mentioned, viz., that these fourteen roads, representing 7,300 miles, earned, on an average, \$10,430.00 per mile that the total earnings were \$76,143,220 for a total amount, stock and bonds,

of \$373,750,552, and that if these roads had been operated on an average for 70 per cent. of the gross earnings, the balance would have paid a six per cent. dividend on the whole amount of stock and bonds. If the present condition of these Western Railways, with the resources of the country through which they may run so imperfectly developed, is thus satisfactory, what will be the results when the mineral, agricultural and manufacturing interest, attain their proper growth, and when the population has been doubled or trebled, either by foreign emigration or by an influx of population from the Eastern and New England States?

MAGNITUDE OF LONDON.—"Its houses number more than 350,000, and its streets, if placed in line, would extend from Liverpool to New York, and are lighted at night by 360,000 gas lamps, consuming in every twenty-four hours about 13,000,000 cubic feet of gas. Of the water supply, 44,383,328 gallons are used per day. The traveling public sustain 5,000 cabs and 1,500 omnibusses, beside all the other sorts of vehicles which human needs can require, or human wit invent. Its hungry population devour in course of every year, 1,600,000 quarters of wheat, 240,000 bullocks, 1,700,000 sheep, 28,000 calves, 35,000 pigs, 10,000,000 head of game, 3,000,000 salmon, and innumerable fish of other sorts, and consume 43,200,000 gallons of beer, 2,000,000 gallons of spirits, and 65,000 pipes of wine. As a consequence, 2,400 doctors find constant employment. London, finally, supports 852 churches, which are presided over by 930 divines of greater or less note."

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If you wish to know how Fortunes are made and lost in a day; how Shrewd Men are ruined in Wall Street; how Countrymen are swindled by Sharps; how Ministers and Merchants are Blackmailed; how Dance Halls and Concert Saloons are Managed; how Gambling Houses and Lotteries are conducted; how Stock and Oil Companies Originate and how the Bubbles Burst, read this work. It contains 35 fine engravings; tells all about the Mysteries and Crimes of New York, and is the Spiciest and Cheapest work of the kind published.

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We would respectfully call the attention of Superintendents, General Ticket and Freight Agents to the class of work we are now producing.

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STRETCHERS,

Illuminated and Plain Show Cards

CONSECUTIVELY NUMBERED

COUPON AND LOCAL TICKETS,

Bills Lading,

Way Bills,

Blank Books,

AND ALL WORK INCIDENT TO RAILROAD
OFFICES,

Get out in first-class style, and at as low rates as any establishment in the country.

SUSPENSION

COUPON TICKET CASE.

BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the long-end package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF NO. FORMS.	PRICES.	SIZE NO. OF NO. FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without portings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms, and also with working plans, if desired.

BACON & EVERINGHAM,
Milwaukee, Wis.

All orders addressed to us will receive prompt attention.

WRIGHTSON & CO.

167 Walnut St., Cincinnati,

R. W. CARROLL & CO.

Wholesale and Retail

BOOKSELLERS AND STATIONERS,

No. 117 West Fourth Street,

CINCINNATI, O.]

Keep always in stock a full assortment of

BOOKS & STATIONERY AT LOWEST PRICES.

BLANK BOOKS

Of any desired pattern made to order promptly.

Particular attention paid to BLANK BOOKS and BLANK WORK for

RAILROADS,

BANKERS,

MERCHANTS,

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MANUFACTURERS,

EXPRESS COMPANIES,

PUBLIC OFFICES, Etc., Etc.

BINDING OF ALL KINDS NEATLY EXECUTED.

Those desiring FIRST CLASS BOOKS can have them done satisfactory at reasonable prices.

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117 West Fourth Street, 2 doors east of Race.

WM. MERCER, R. B. MORE, GEO. STODDARD
Late Master Car Builder C.H. & D. & M.

MERCER, MORE & CO.,

BUILDERS OF EVERY DESCRIPTION OF

RAILROAD CARS

Cambridge, Ind.

REFERENCES.

MITH, Pres't, C. & C. Railway, Columbus, O.
M. RIDENOUR, Pres't, C. & I. J. R. R. College Cor., Ind.
J. M. LUNT, Sup't, C. & I. C. R. R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C. H. & D. R. R., Cincinnati, O.
J. H. WELLER, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton
C. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., Indianapolis, Ind.
Aug. 2, 1886.]

THE

STEAM SYPHON PUMP

IS THE

Most Simple, Effective and Durable Device for
Raising Water by steam, yet discovered.

It is an independent LIFT AND FORCE PUMP, without piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP.

WITH THE

STEAM SYPHON WATER-STATION

A locomotive can raise water, with its own steam, to fill its tender in the same time as from an ordinary tank; thus dispensing with tanks, pumping machinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops, Shops, Elevators, &c.,

AND BY FAR,

THE BEST BILGE PUMP,

for Steam Vessels, in use

For Circulars and other information, address,

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Oil Lands

IN

Kentucky & Tennessee,

FOR SALE BY

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167 Walnut Street,

CINCINNATI

THROUGH —FROM— CINCINNATI TO NEW YORK WITHOUT CHANGE OF COACHES!

—VIA—

Atlantic & Great Western R'y



PASSENGERS leaving CINCINNATI by the A. & G. W. Railway, on Saturday Morning, by the 6:00 a.m. Lightning Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next day, Sunday

2 Through Lightning Express Trains for New York Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6.15am.....	7.10pm
Dayton.....	8.35 ".....	9.30 "
Arrive West Salem.....	1.50pm.....	4.53am
" Leavittsburg.....	4.55 ".....	7.35 "
" Meadville.....	7.35 ".....	11.10 "
" Susquehanna.....	7.48am.....	11.29pm
" Paterson.....	2.25pm.....	6.03am
" New York.....	3.15 ".....	7.00 "
" Boston.....	5.45am.....	4.45pm

Sleeping Coaches on Night Trains the entire distance between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday night instead of Saturday night. All other Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
At Mansfield with Pitts., Et. Wayne and Chicago Railroad.

THIS IS THE ONLY ROUTE TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely new, of the most modern, substantial, and approved description, unequalled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all Trains.

Ample time is allowed, at all hours, for meals.

No effort will be spared by the Company to render a trip over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE CHECKS,

Apply in Cincinnati at New Depot of Cincinnati, Hamilton and Dayton Railway; or at north-west corner of Broadway and Front streets, and at No. 80 Fourth street, nearly opposite Post Office. Also at any of the principal Railroad and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. RUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1886, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving New York at 7:00 a.m. from 15 foot of Liberty street, North River, at 7:00 and 8:00 a.m. and 8:00 p.m. On Sundays, one Express Train at 8:00 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours Time over other Lines, with but one change of cars to Chicago or Cincinnati, and but two to St. Louis. Passengers from the East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines. State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from lot of Liberty street, N. R.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m., Pittsburgh 12 light

9:00 a.m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 8:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN, from the West, leaving Pittsburgh at 4:20 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at 6:09 a.m. Through cars from Pittsburgh to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pittsburgh at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:52 a.m.; Allentown at 12:12 p.m.; Easton at 12:19 p.m. Through cars from Pittsburgh to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing Reading at 10:40 a.m.; Allentown 12:20 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

2:10 p.m.—FAST LINE, from the West, leaving Pittsburgh at 3:10 a.m.; passes Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 6:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7.00 A. M.	9.10 A. M.
Springfield & St. Joseph Ex.....	12.00 P. M.	4.30 P. M.
St. Louis & Chicago Ex.....	4.55 P. M.	12.15 A. M.

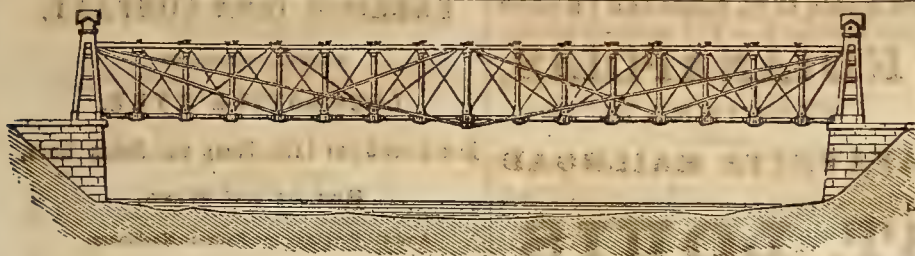
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5.15 P. M.	5.05 A. M.
Harrison Accommodation.....	10.10 A. M.	2.25 P. M.

Through Tickets can be obtained at the Burnet House, Spencer House and Gibson House offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1392.

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MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pairs of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail and work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and construction of all the details. Our long experience and opportunities of obtaining information enable us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order, Wheels, Axles, Bowling or Low Moor Tires (to floaters without thorn), Composition Castings for Bearings, every description of Copper Sheet Iron and Boiler Work, and every article pertaining to the repair or renewal of locomotive Engines.

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INSTRUMENT MAKERS

Philadelphia, Pa.

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AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

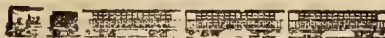
Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
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The Old And Reliable Route.



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THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads, still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.

No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent,
my 11 Pittsburg, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

[WITH

Productive Wells all

around them.

FOR SALE BY

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167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

Railroad, Car and Machine Shop

MACHINER OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
300 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and best MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.

Shops—Seventeenth and Conestoga St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly to test for the celebrated Wheels, either single or double plate with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner the shortest notice, and on the most reasonable

PASSENGERS



Purchasing Tickets via

Baltimore & Ohio R.R.

—TO—

BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON **FREE!** Fare to Washington City same as to
Baltimore.J. L. WILSON, Master of Transportation.
L. M. COLF, General Ticket Agent.
NO. W. BROWN, General Passenger Agent. } Dec. '67.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Rich- mond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at
the old office, south-east corner of Broadway and Front; Burn-
et House Office, corner Vine and Baker streets, and at the
respective depots, East Front and West Sixth streets.P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.**JANUARY 5th, 1868.**Cincinnati to St. Louis Without
Change of Cars.**Ohio & Mississippi Railroad,**For St. Louis, Cairo, Louisville, Evansville, St. Joseph,
Jefferson City, and all points on the Lower Mis-
sissippi River, and on the the Illinois
Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	6 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Arrive SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cinch,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vin-
street; Corner Front and Broadway and at Depot, Foot
1 Mill Street.C. E. FOLLET Gen. Passenger Agent
J. W. ONLOGUE,
General Superintendent.

Best Route to St. Louis and Chicago

**INDIANAPOLIS,
CINCINNATI
—AND—
LAFAYETTE RAILROAD**

Great Through Passenger Route from CINCINNATI to

**ST. LOUIS,
CAIRO,
CHICAGO,**Memphis, New Orleans, Springfield, Quincy,
Keokuk, St. Joseph, Des Moines, Omaha
And all Rail and River Towns and Cities in the West,
North west and South-west.**5 THROUGH TRAINS DAILY,**
(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express...	7.00 am	10.50 pm
Indianapolis and Cairo Express.....	6.30 am	2.30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and
Chicago.

Elegant Sleeping Cars on all night trains.

ACCOMMODATION TRAINS.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.00 am	8.35 am
Harrison.....	3.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.00 pm

Through Tickets can be obtained at the Burnet House
Office, corner of Third and Vine; River Office, corner of
Walnut Street and River; and at Depot, corner of Plum
and Pearl streets. The splendid Passenger Depot of the
I. & C. Railroad is about a mile nearer the business center
of the city than the Depot of any other railroad, and with-
in a few squares of the Postoffice and principal hotels and
Steamboat landings.

J. F. RICHARDSON, Superintendent.

A. E. CLARK, General Ticket Agent.

MOSELEY'S WROUGHT IRON ARCH

BRIDGES.

AND

CORRUGATED IRON ROOFS

[ARCHED AND FLAT.]

CORRUGATED SHEETS, OF ALL SIZES, CON-
stantly on hand, painted, and ready for shipment,
with instructions for applying them.MOSELEY & CO.
Boston, Mass.**EDWIN J. HORNER,**

Successor to

McDANIEL & HORNER,



Locomotive and Railroad

CAR SPRING MANUFACTURER,

Wilmington, Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods,

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn

JOHN A. WRIGHT, Sup't.

This Iron is all made from best Juniata cold-blast char-
coal Pig Iron, refined with Charcoal in the old-fashioned
Forge Fire, hammered into a Bloom from which Iron is
hammered. The whole operation from ore to finished Iron
is conducted at our own Works June 9**THE SCHENECTADY
LOCOMOTIVE WORKS,**

SCHENECTADY, N. Y.,

Continue to receive orders and to furnish with promptness
the best and latest improved**COAL OR WOOD BURNING
LOCOMOTIVE ENGINES**

AND OTHER

Railroad Machinery, Tires, etc.

—AND ALSO TO—

Rebuild and Repair Locomotives.The above works being located on the New York Central
Railroad, near the center of the State, possess superior
facilities for forwarding their work to any part of the coun-
try without delay.JOHN ELLIS, President.
WALTER McQUEEN, Sup't.**PASCAL IRON WORKS.**

ESTABLISHED 1821.

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MANUFACTURERS OF

Lap-Welded American Charcoal Iron Bol-
ler Flues—from 1½ to 10 inches outside diameter, cut
to definite lengths.Wrought Iron Welded Tubes—from ½ inch to
8 inches inside diameter, with screw and socket connec-
tions, for Steam, Gas Water, or other purposes, and fit-
tings of every kind to suit the same.Wrought Iron Galvanized Tubes—strong
and durable, designed especially for Water purposes.Cast Iron Gas or Water Pipe—1½ to 24 inches in
diameter, and branches for same, &c.,
Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. P. M. TASKER
HY. G. MORRIS.**Philadelphia, Wilmington & Baltimore****RAILROAD!****FOUR PASSENGER TRAINS DAILY**TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY
4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
(Express); 2.30 P. M.; 11.30 P. M. night.
On Sundays, 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West, 7.35 A. M.; 9.20
A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
P. M. (Express)
SUNDAY TRAINS.—Leave Philadelphia for Baltimor
at Washington at 4.15 A. M., and 11.00 P. M. Leave at
Baltimore for Philadelphia at 8.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave
Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD,
T. WRIGHTSON, } Editors

CINCINNATI:

THURSDAY, MARCH 25, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street.
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 1 00
“ “ per month.....	3 00
“ “ six months.....	12 00
“ “ per annum.....	20 00
“ column, single insertion.....	5 00
“ “ per month.....	10 00
“ “ six months.....	40 00
“ “ per annum.....	80 00
“ page, single insertion.....	75 00
“ “ per month.....	25 00
“ “ six months.....	110 00
“ “ per annum.....	200 00

Cards not exceeding four lines, \$5.00 per annum.

WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	
Columbus Accommodation.....	3:55 P. M.	10:35 A. M.
Morrow Accommodation.....	5:10 P. M.	8:00 A. M.
Lightning Express.....	8:30 P. M.	10:40 P. M.
Night Express.....	7:20 A. M.	

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillsboro Accommodation.....	3:45 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:50 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.).....	7:00 A. M.	7:00 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Toledo, Detroit & Canada.....	7:10 A. M.	10:45 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Lima, Ft. Wayne & Chicago.....	7:10 A. M.	10:45 P. M.
do do do.....	2:30 P. M.	5:10 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Sandusky, Cleveland & Buffalo.....	7:10 A. M.	7:00 P. M.
do do do.....	5:45 P. M.	10:25 A. M.
Connersville & Indianapolis.....	7:10 A. M.	10:45 P. M.
do do do.....	2:30 P. M.	5:10 P. M.
do do do.....	5:00 P. M.	10:45 A. M.
Hamilton, Eaton & Richmond.....	7:10 A. M.	10:45 P. M.
do do do.....	5:00 P. M.	10:25 A. M.
Hamilton Accommodation.....		8:05 A. M.
do do do.....		6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

Connersville, Rushville and Indianapolis Mail.....	7:00 A. M.	10:45 P. M.
St. Louis, Indianapolis & Connersville & Rushville Express.....	2:30 P. M.	5:10 P. M.
Cambridge City and New Castle.....	7:00 A. M.	10:45 A. M.
Cambridge City and New Castle, Express.....	5:00 P. M.	10:45 A. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Dar Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	7:00 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	7:20 P. M.
New York Express.....	8:00 P. M.	10:40 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	6:30 A. M.
Springfield Express.....	3:00 P. M.	4:20 P. M.
St. Louis Express.....	11:00 P. M.	1:10 A. M.
Lawrenceburg Accommodation.....	10:40 A. M.	2:31 P. M.
do do do.....	4:30 P. M.	8:20 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	4:20 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:35 A. M.
Harrison Accommodation.....	5:50 P. M.	7:37 A. M.
Chicago Night Express.....	9:00 P. M.	10:32 P. M.

OHIO AND MISSISSIPPI.

St. Louis, Cairo & Louisville (Sundays excepted).....	7:50 A. M.	12:40 A. M.
Louisville Special Train (Sundays excepted).....	4:25 P. M.	11:45 A. M.
Louisville, St. Louis & Cairo Daily Express.....	7:10 P. M.	6:00 A. M.

ATLANTIC AND GREAT WESTERN RAILWAY.

Lightning Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	7:10 P. M.	7:00 A. M.

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

The Production and Current of Precious Metals.

Mr. William P. Blake's "Report on Precious Metals" has too much valuable matter to be passed over slightly; but we can here give a digest of only one or two points. Without going into a detailed account of the sources of production, the following is the result for 1867:

"The ratio of the value in each of the principal countries to the value of the total production is shown in separate columns.

It appears that the total annual production of gold and silver at the present time is approximately as follows:

Gold.....	\$130,680,000	70.83 per cent.
Silver.....	53,820,000	29.17 per cent.
Total.....	\$184,500,000	100 per cent.

Of this total, 30.02 per cent. is produced within the limits of the United States; and of the gold, California and the other gold producing regions of the country furnished 43.23 per cent.; Australia, 24.14 per cent.; and Russia, 11.87 per cent.

At the commencement of this century the total gold production exclusive of Asia was less than \$13,000,000; in 1847 it was about \$41,000,000; and in 1853, \$156,500,000.

Of the present production of silver the United States supplies about 9 per cent; Mexico, 35.

The production of silver in the great silver region of the United States may be regarded as only commenced. Most of the silver has hitherto been taken from the Comstock lode, but when by means of railroads the other rich silver districts of Nevada are made more accessible for machinery, supplies and labor, the total product of the State will be greatly increased, and, together with the opening of the many veins of Idaho, Arizona, Utah and California, the product of silver bullion will soon equal, if it does not exceed, that of Mexico at any period of its history.

The total annual silver product of the world at the commencement of this century was about \$36,000,000 in value, and as the gold product at that time was about \$13,000,000, the ratio of the production of the two metals was as 36 to 13, being the reverse of the existing ratio, as will be seen by the following comparison, in per cents, of the total production at the two periods."

The total production of gold and silver sixty years ago was about \$50,000,000 per annum. In the statement made of the proportion, then, two facts will be observed: 1. That the production of gold is now fourfold what it was then. 2. That silver was then in proportion, threefold greater to gold than it is now. As a consequence, silver (not gold) was then the standard among precious metals, and now gold is the standard, silver being now 10 per cent. below gold. We have in this the most striking evidence that the precious metals are not the standard of values. What is? Nothing that we know of, and perhaps the common idea of making gold and silver the current standard, may be as near right as we can get. But, granting that, there lies in the present condition of the monetary world a very hard fact—that this

assumed standard is actually varying at such a rapid rate, in relation to other products, that it is no standard at all. Now, it may be very difficult to get any thing better, but it is certain the commercial world is suffering very much from this cause. How can it be remedied? There is a proposition to make a "unitary coinage" of gold, &c., but there is a prior question. If you can make a unitary coinage of gold, why not of paper? It is as easy to do one as to do the other. Money is put forth as a representative of values, with the Government countersign on it. Does it make any difference what the material is? Not in the ease of doing, certainly. For if done at all it must be done by the agreements of civilized governments. When we consider that in England, France and the United States the agreement on a unitary paper money would withdraw two thousand millions of dollars, used as capital, in the mere machinery of transfers, and leaves it free for other employments; enlightened men, at least, will be able to see one advantage in a unitary paper standard over that of gold. But we leave the discussion of that point for another time. Discussed it must be and will be, for the world is growing too enlightened for Pagans and Barbarians.

To show where the current of precious metals runs, we give the following remarks of Mr. Blake:

"The current or movement of the precious metals appears to have always been counter to the march of civilization, or from the new to the older countries. As discovery and settlement has progressed from East to West, from Asia to Europe, from Europe to the Americas and to Australia, so the gold and silver has been constantly flowing backward upon the same lines from Europe to Asia, and from America and Australia to Europe.

"It may be asserted that in general the flow of the precious metals is always from those countries where the value of the imports exceeds the value of the exports, and towards those where the value of the exports exceeds the value of the imports. The balance of trade is settled with gold and silver. The balance of trade has long been in favor of India and China, and there has been a constant flow of the precious metals in that direction. The total amount of bullion absorbed in India from 1800 to 1864 exceeded £256,000,000, and the bullion coined in India from 1800 to 1865 exceeded £231,000,000."

In sixty years, then, India drew from Europe and America two thousand five hundred millions of dollars of gold and silver. Mr. Blake gives us the facts of the transfer and one of the causes, without inquiring what was the real source of demand, which fact must, at least, give the whole philosophy of this absorbing demand for the precious metals. The "current," says Mr. Blake, is just "counter to the march of civilization." Exactly. But why? Is it not true, because the balances are that way, although that is an intermediate fact. It is because the "oldest nations" are pagan and barbarous, and it is their pagan life and

religion which makes the original demand. America, the newest country, is the great producer of the precious metals; Europe is a small producer, and an intermediate; hence, Europe is a mere cats-paw to transfer the precious metals from America, the newest country, to India and China, the oldest countries. This will be more manifest by the following table of exports of precious metals from Europe, which Europe had first got from America:

EXPORTS OF GOLD AND SILVER TO ASIA IN FOURTEEN YEARS.

	England.	Mediterranean.	Total.
1851.....	\$8,362,500	.....	\$8,362,500
1852.....	12,116,210	.....	12,116,210
1853.....	23,550,000	\$4,240,000	27,790,000
1854.....	15,555,000	7,255,000	22,821,000
1855.....	32,075,000	7,620,000	39,695,000
1856.....	60,590,000	9,950,000	70,540,000
1857.....	86,477,170	10,180,291	96,657,461
1858.....	25,444,250	16,150,000	31,594,250
1859.....	33,298,120	7,340,280	40,638,400
1860.....	40,620,182	8,120,204	48,740,386
1861.....	36,399,175	7,980,000	44,379,175
1862.....	53,551,045	9,150,000	61,701,145
1863.....	38,236,191	29,281,000	67,517,191
1864.....	37,079,196	41,255,942	78,335,139

Tot. \$503,365,035 \$147,522,718 \$650,885,753

"Professor Jevons, in an article upon the variation of prices and the value of currency since 1782, says: 'Asia, then, is the great reservoir and sink of the precious metals. It has saved us from a commercial revolution, and taken off our hands many millions of bullion, which would be worse than useless here. And from the earliest historical ages it has stood in a similar relation to Europe. In the middle ages it relieved Europe of the excess of Spanish American treasure, just as it now relieves.'"

Europe is now exporting gold (which it first got from America) to Asia, at the rate of more than sixty millions of dollars per annum. Now, we can see by this where the great body of our gold goes and why.

Mr. Blake (See "Report on Precious Metals") thinks that this production of gold is decreasing. We do not, for the general reason that gold is abundant in Asia, and we have no statistics of production there. The old mines of Solomon's time have been abandoned, but they will be reopened whenever the supply ceases from other sources. The following is Mr. Blake's view:

DECREASE IN THE PRODUCTION OF GOLD.

"The statistics of the production of gold in California, Australia and other countries show very clearly the familiar fact that in all newly discovered gold regions a maximum production is soon attained and is succeeded by a gradual, but certain decrease, owing to the exhaustion of the placer deposits. Thus, in California, the maximum product was attained in the year 1853, when the shipments were about \$55,000,000, and the production was doubtless from \$60,000,000 to \$65,000,000 in value. It is now much less than half of that amount. In Australia, in the same year, (1853) the reported shipments from Victoria amounted to 3,150,020 troy ounces, and the production was nearly \$60,000,000 in value. In 1867, the shipments were only 1,433,687 ounces, much less than half as

much as in 1853. The apparently nearly uniform production of California for the past ten years, judging from the shipments of treasure from the port of San Francisco, is the result of the opening of other gold and silver producing regions in Nevada, Idaho, Oregon and Arizona, which, so far as their production depends upon placers, are in their turn liable to rapid exhaustion. In British America and in Idaho and Montana the production of gold is now rapidly diminishing.

"Russia is the only country in which a nearly uniform production has been maintained through a series of years. This may perhaps be explained by the fact that the mines have not been free to all, and consequently comparatively few persons have been engaged in developing them. The climate, also, is unfavorable to rapid and continuous working, and the method of washing placer gravel by machinery in use there is necessarily slow and gives limited results, which can not compare with those obtained by the gigantic system of sluicing practiced in California and Australia. There has also been in Russia a constant extension eastward of the gold region by new discoveries, extending even to the Pacific coast, and there is doubtless an immense area of virgin ground from which the gold supply of Russia may be for a long time maintained at the present figures, or, possibly, greatly increased, especially if all restrictions upon mining are removed, and the country is thrown open to the skilled miners of other regions. This Siberian gold field, with the great mountain region south of it, extending into China and India, is the only extended region now known in regard to which there is any uncertainty in respect to its probable future yield of gold."

In our opinion, the supply of gold is much more likely to increase than diminish. It is true, that after a time the richest mines begin to decline, just as the richest lands do. The miner, like the farmer, is cropping the cream off the surface, and the further he goes in the more labor it takes to produce the same result. Hence, the mine becomes less profitable, and, since the great body of new miners are only speculators, expecting to make their fortune by finding nuggets, the new mines will flag till they are systematically and scientifically conducted; but, on the other hand, the whole mountainous region through Western America is a gold producing country. After California came Idaho, Colorado, Montana, British Columbia, &c. Now, the region opened by these mining adventurers is not a tenth part of that which remains to be opened, and for probably half a century we shall hear, from year to year, accounts of new mines, and the gold production of this country is likely to be, ten years hence, greater than it ever has been. In spite of all theorists, the whole mass of gold, in proportion to the whole mass of other products, is constantly increasing, and, with this increase, what is called "prices" must rise.

NEW MUSIC.—We have received from JOHN CHURCH, jr., Music Publisher, the following sheet music arranged for the Piano: The "Blind Mice Waltz," a quaint title—brilliant, and can not fail to please those who are fond

of the "giddy waltz," by F. Rysler; the "Musing at Eve" Waltz, is perhaps equally pretty, while the "Captain Jenks Gallop," by Mark Tapley, is an excellent and dashing companion to the popular Song bearing the name of this famous "Captain of the Horse Marines, who fed his horse with both corn and beans." The "Nearest Way Home" is one of the Concert Songs of Clara Louisa Kellogg, and hence needs no other commendation; the words, though simple, are such a trite index to the experience of every one, that they will bring back many "sweet memories" to old as well as young, "Speak to me Darling," is a sweet, pathetic song by Frank Howard. Church has all the new music published.

Important Railroad Law.

The following is a corrected copy of the law recently passed by the Legislature of Ohio, empowering foreign railroad companies to lease or to purchase and operate railroads within this State. It is known as the Stickney Railroad Bill. The copy below contains all the Senate amendments, and is an exact transcript of the draft on file in the office of the Secretary of State:

An act to amend section 24 of an act entitled

"An act to provide for the creation and regulation of incorporated companies in the State of Ohio," passed May 1, 1852. [Swan & Critchfield, pages 231 & 232.]

Sec 1. *Be it enacted, &c.* That section 24 of the above entitled act be amended to read as follows:

Sec. 24. Any railroad company heretofore or hereafter incorporated, may at any time, by means of subscription to the capital of any other company or otherwise, aid such company in the construction of its railroad, within or without the State, for the purpose of forming a connection of said last mentioned road with the road owned by the company furnishing said aid; or any railroad company organized in pursuance of law, either within this or any other State, may lease or purchase any part in all or any railroad, the whole or a part of which is in this State, and constructed, owned or leased by any other company, if said companies' lines of railroad are continuous, or connected at a point either within or without this State, upon such terms and conditions as may be agreed on between said companies respectively, or any two or more railroad companies whose lines are so constructed may enter into any arrangement for their common benefit consistent with and calculated to promote the objects for which they were created.

Provided, That no such aid shall be furnished nor any purchase, lease, subletting or arrangement perfected, until a meeting of the stockholders of said company of this State, party to such agreement, whereby a railroad in this State may be aided, purchased, leased, sublet or effected by such arrangement, shall have been called by the Directors thereof, at such time and place, and in such manner as they shall designate, and the holders of at least two thirds of the stock of such company represented at such meeting, in person or by proxy, and voting thereat, shall have assented thereto.

And provided, further, that if a railroad company of another State shall lease a railroad, the whole or a part of which is in this State, or make any arrangement for opera-

ting the same, as provided in this act, such part of said railroad as is within this State shall be subject to taxation, and shall be subject to all regulations and provisions of law governing railroads in this State, and such other provisions of law as have been, or may hereafter be, enacted for the government of such railroads as do, or shall, by consolidation, or any of the other means provided by laws, form part of a continuous line of road from a point in one of the States of the United States into this State, or through this State to a point in another State; and a corporation in this State leasing its road to a corporation of another State, shall remain liable to all parties as if it operated the road itself; and a corporation of another State, being the lessee of a railroad in this State, shall likewise be held liable for any violation of the laws of this State, and may sue and be sued in all cases, and for the same causes, and in the same manner as a corporation of this State might sue or be sued, if operating its own road; but a satisfaction of any claim or judgment by either of said corporations shall discharge the others, and a corporation being the lessee, as aforesaid, shall establish and maintain an office in this State, at some point on the line of the railroad so leased, at which legal process and notice may be served, as at the general office of a railroad company of this State.

Provided, further, that it shall be regarded as one of the conditions upon which a railroad company of another State may lease or purchase a railroad, the whole or any part of which is in this State, or make any arrangements for operating the same, under the provisions of this section, that such railroad company of another State thereby waives the right to remove any case from any of the courts of this State to any of the courts of the United States, or to bring a suit in any of the courts of the United States against any citizen of this State, and a violation of such condition shall operate as a forfeiture of all rights acquired under such lease, purchase or arrangement.

SEC. 2 That said original section 24 be and the same is hereby repealed; and this act shall take effect on its passage.

F. W. THORNHILL,

Speaker of the House of Representatives.

T. J. GODFREY,

President pro tem. of the Senate.

Passed March 19, 1869.

The Atlantic Cable.

A friend intimately connected with the working of the Atlantic Telegraph Cable, informs us that the insulation is growing more perfect from month to month, and that the first, laid four years since, leaks less than the last one. The loss, at the present time, does not reach *one-half of one per cent* upon both cables. This is surprising, and very encouraging to the owners of the line. The extreme cold of the deep sea basin, in which the wires repose, is favorable to the retention of the electrical impulses in the channel provided for them. The time consumed in charging and discharging the conductors is a bar to rapid communication; but this is to be overcome by new methods of insulation. A device has recently been brought forward, which promises to fully remove this obstacle, and thus enable submarine cables to perform double the work in the same length of time. The success of deep sea cables is now fully assured, and we may look for a large increase in the number during the next quarter of a century.—*Boston Journal of Chemistry*

The Three Rival Atlantic Trunk Lines as seen from London.

THE PENNSYLVANIA CENTRAL RAILROAD.

Our late files of the New York and Chicago papers, together with the correspondence of the *London Times* of the past week, dwell largely on the struggle for railway supremacy which is exciting so much interest in the United States. The competitors are the Pennsylvania Central, under J. Edgar Thomson, the New York Central, under Cornelius Vanderbilt, and the Erie, under Jay Gould. Of these the Pennsylvania Central has, by good management, obtained the foremost place, and is now considered the greatest railway corporation in America, if not in the world, occupying the relative position in the United States, that the London and Northwestern does in England. It was early and skillfully planned, being carried through the only passes of the Allegheny Mountains in Pennsylvania, to connect rich and populous districts. Mr. Thomson, the chairman, bred a civil engineer and the son of a civil engineer in planning, had the guiding control in projecting and building the line; and as his own fortune is therein invested, as well as his reputation, his interest is sufficient to ensure for it his undivided attention. The steady way in which this property has risen to so much importance is due to there being no departure from the original plan, which has been consistently pursued by one mind. Its capital was subscribed mainly by local, but also by English capital, and the road was built for ready money. There was no financing, stock-watering and jobbing; no spurious dividends or contractors' rings, the property has paid a regular and fair return from the hour the first installments was paid in on the capital invested, and its surplus earnings have been put into the road, or expended in increasing its communications. This system, steadily pursued for years, has placed the company at the head of American Railway corporations, and enabled it to compete for the through traffic to San Francisco against such great combinations as those controlled by Jay Gould and Cornelius Vanderbilt, whose lines terminate in the Metropolitan City of New York. Although the Pennsylvania centers in Philadelphia, not in New York, it has a short connection *via* Camden and Amboy line to the latter city, while all Pennsylvania is its own ground. Philadelphia, as a port, has many advantages for the trans-continental traffic. It is clear that Mr. Thomson and his Board think so; for their efforts are directed East as well as West, afloat as well as ashore; steam lines being invited from North Germany and Liverpool. A great struggle between this road and the Erie has just terminated in favor of the Pennsylvania Central. The Erie, having control of the Atlantic and Great Western, endeavored to secure its progress West, and the control of Western traffic by leasing the Columbus, Chicago and Indiana Central. Jay Gould offered the stockholders to pay the interest on the bonded debt and give them an average of 7 per cent., lay a third rail for the six foot gauge, and return the road at the end of the lease in a condition as good as received. Had this offer been accepted, not only would connection have been secured for the Erie with Indianapolis, Cairo, St. Louis, Peoria, Keokuk, Rock Island and Chicago, and one of its rival's communication from some of these places would have been interfered with.

But that rival stepped into the field and offered the Columbus stockholders 30 per cent. of the gross earnings of their road, without guaranteeing a regular dividend, though undertaking to spend in permanent improvements a sum equal to what it would have cost the Erie to lay a third rail, estimated at \$2,000,000, which would certainly be better applied in reducing grades, ballasting, and making the track substantial, than in laying a rail for a broader gauge. The estimated earnings of the road the two lines were striving to secure was, for the first year, \$6,000,000, thirty per cent. of which would give to the company \$1,800,000, being \$1,400,000 for interest on the bonded debt, leaving \$400,000 for dividends. But in less than five years it is thought the gross earnings will have nearly doubled, as its connections with the Mississippi will then be complete. Baulked in their attempt with the Columbus, Chicago and Indiana Central, the Erie turned to the Pittsburgh, Fort Wayne and Chicago Railroad, hitherto controlled by the Pennsylvania, and secretly set to work to buy up the stock in the market while sending an agent to Europe to influence the foreign votes so as to control the next election. To checkmate this the managers of the Pennsylvania introduced a bill into the State Legislature making it lawful for the board of directors of the Pittsburgh, Fort Wayne and Chicago Railway Company so to classify their number that one-fourth only shall terminate their official terms at the next annual election, which would give two years, even supposing that the stock fell into the hands of the Erie directors before they could gain their object. The bill passed the House, then the Senate, and was signed by the Governor in 34 minutes, so that the Erie and those they might have influenced in the Legislature found it a law before they knew what was in store. Independent of the trunk line, the Pennsylvania now controls the following roads: The Panhandle line, reaching from Pittsburgh to Columbus, 193 miles, which is virtually a continuation of the Pennsylvania line, and receives all the western connections, which are—the little Miami, which has just leased the Columbus and Xenia, being run in connection with it, both of which will be leased to the Pennsylvania, giving a line from Columbus to Cincinnati, 120 miles long; the Cincinnati and Indianapolis line of the Columbus, Chicago and Indiana Central, 188 miles long, which receives at Bradford Junction, 83 miles from Columbus; the Columbus and Chicago line of the Columbus, Chicago and Indiana Central, 231 miles; and at Richmond, 120 miles from Columbus; the Logansport and Richmond line, 107 miles, with its feeder, the Toledo, Peoria and Warsaw Railroad, the section of which between Logansport and the Illinois line is owned by the Columbus, Chicago and Indiana Central, and which may soon receive another branch from Peoria to Rock Island, and will surely have one to Burlington. At Indianapolis this road will receive the eastern business of the air line to St. Louis, which will be completed next year, and which is controlled by the Pennsylvania and the Columbus, Chicago and Indiana Central, and also from the Indianapolis and Vincennes and Cairo and Vincennes Railroads, which together form the most direct line to Cairo. A large part of the unfinished links in these roads is completed, and will be in running order soon. The Pennsylvania and the Columbus, Chicago and Indiana Central are the chief owners. The new through trains from Louisville to New York will run over the Pennsylvania

lines from Cambridge City, 135 miles west of Columbus. The Correspondent of the *Times* says that the consummate skill of Cornelius Vanderbilt makes him by far the ablest of the three rival railway presidents, and may finally give him his road the victory. The result, however, as yet, gives to this a plump contradiction, as acknowledged by the correspondent, when he states that "the Pennsylvania Central has the largest capital and the best constructed roadway, with the chief apparent advantages in the contest at present." How has this been gained, if not by the good management of J. Edgar Thomson? His line was first in the race, and was working steadily towards his object, while the Erie and New York Central were playing foot-ball with their stock in Wall street, and trust and parry in the New York Courts of Law. Whatever may be the "consummate skill" of Commodore Vanderbilt, we have more faith in the engineering ability of the Pennsylvania Chairman, who spends the surplus earnings in making the best roadways, and has never forgotten from the day the first sod was turned at Philadelphia that the ultimate end was San Francisco. While we look for a brilliant future for Philadelphia through the extraordinary persistency and energy which has so far managed this great corporation as to give to that port the chance, at least, of a large share of the through traffic to the Pacific, we believe its two rivals to be managed with skill and energy, although (at least on the part of the Erie) with few scruples. The stock jobbing of that board, as well as Mr. Vanderbilt's known resources in manipulating the markets, have created an unfavorable impression in Europe, where the property is so largely held. But we believe, in the end, the shareholders will be agreeably surprised, and that all three will do well when the tide of eastern travel begins to set West, as it soon will, its monopoly being the real cause of the battle of these giant corporations. An American paper thus sums up the chances of this war: "Gould is sharp, Vanderbilt is strong, and the New Yorkers control a mint of money, but they find it no easy job to kill off the Pennsylvania Central." But the best testimony to the excellent management of this line is to be found in the remarkable evidence of Jay Gould, before the Legislature of New York — *Anglo American Times (London), Feb. 27*

A Telegraphic Experiment.

The particulars of an interesting telegraphic experiment are given by the *Buffalo Courier*, as follows:

"For the purpose of arriving at the difference in mean time between San Francisco and Boston, the wires of the Western Union Telegraph Company have nightly been connected for nearly a month past from one side of the continent to the other; and the ticking of a chronometer in Cambridge University has been observed and recorded in San Francisco with a most remarkable degree of accuracy. This is done by connecting the pendulum of the chronometer at Cambridge with the wire in such a manner that the main circuit is broken, and instantly closed again at every beat or tick of the time piece.

"At any time during an evening of the past month, a visitor to the operating rooms of the Western Union Telegraph office in this city might have heard one of the little instruments beating the measured time of the sixtieth part of a minute, with the monotony and regularity of a chronometer itself. Tick! tick!

tick! One, two, three, four, five minutes elapse, and then the little monitor ceases. Back comes the answer from San Francisco to Boston: 'All right; your second signals came good, and have been recorded for five minutes. Go ahead for five minutes more.' Again, tick! tick! tick! for five minutes, and then San Francisco says again: 'All right. Are you ready to take my signals? and the answer from Boston is: 'Yes; go ahead!' Tick! tick! tick! says San Francisco for the allotted five minutes, and Boston says, in his turn, 'All right!'

"But notwithstanding the speed with which these pulsations of a clock fly from one side of our continent to the other, it is known there is a loss of time in the transmission. How to arrive at this loss and measure it is the next question. Nothing easier; a second wire is switched into place, a 'repeater' added at Boston, and presto! 'tis done. Now the clock tick's made at San Francisco rush on the wings of light over the three thousand miles of wire to Boston, and back again over the second wire, and record themselves at the point of starting, in something less than sixty seconds of time, having in the interval, traversed six thousand miles. Last night (February 28) witnessed the successful completion of this last experiment, and the flight of electricity was actually measured, so to speak, as easily as one measures a yard of muslin.

"Never before in the world's history has such a wonderful feat been attempted; and that this has been brought to a successful conclusion, is due entirely to the beautiful working of the Western Union Company's wires, together with the assiduous attention and superior ability of its employees. Trace the route on the map, and mark the immense distances so lightly glided over by the subtle fluid.

"The route is from Boston, through Albany, Buffalo, Detroit, Chicago, Omaha, Cheyenne, Salt Lake City and Virginia City to San Francisco; and this route is, of course, doubled, forming, for all practical purposes, but a single circuit. The places in *italics* indicate where repeaters are used to form the double circuit."

THE ANNUAL ELECTION of Directors of the Pittsburgh, Fort Wayne & Chicago Railway took place last Wednesday, and resulted in the re-election of all the old members, as follows: George W. Cass, S. Harbaugh, Pittsburgh; J. Edgar Thompson, Philadelphia; John L. Dawson, New Geneva, Pa.; J. F. D. Lanier, L. H. Meyer, S. J. Tilden, New York; Pliny Hoagland, Jesse Williams, Fort Wayne; Kent Jarvis, Massillon, O.; R. R. Springer, Cincinnati; Senator John Sherman, Mansfield, O.; W. B. Ogden, Chicago.

This board it would seem, was chosen, not in the interest of the Erie nor of the Pennsylvania, but especially in the interest of the Pittsburgh, Fort Wayne & Chicago. If the Erie had obtained any control of the company's stock, it failed to show it at the election. To be sure, the present management will not discriminate against the Erie Railway, but it will not be controlled by that road. It is quite probable that it will be permitted to lay an additional rail on the Fort Wayne road from Mansfield to Chicago, and thus give it a broad gauge outlet to Chicago. But the Fort Wayne road seeks to do business over the whole length of its road from Chicago to Pittsburgh, and will not encourage the diversion of freight or travel at Mansfield or any other point on its line. — *W. R. R. Gazette.*

The Chesapeake and Ohio Canal Company.

To the Stockholders: In presenting the fortieth annual report, we are happy to be able to state that there has been a moderate increase of the business of the company during the past year, and that the prospects for uninterrupted trade and transportation during the current year, look encouraging.

The revenues for the year ending December 31, 1867, exceeded those of 1866 by the sum of \$18,187.97, and amount in the aggregate to \$385,034.83.

The current expenses for the year 1867 were as follows: For reconstruction of dam No. 5, \$30,403.98. For constructing of Tide Lock and dam at Georgetown, \$8,690.00. Balance due for construction of Bridges at Georgetown, \$6,794.00. Extraordinary repairs, breaches, &c., \$9,257.29. Making the sum of \$55,145.27 over and above the ordinary expenses. The ordinary expenses were for repairs \$143,434.53. For pay of Superintendent, Collectors, Inspectors and Look-keepers, there was paid the sum of \$35,834.46. For officers salaries, \$8,440. For contingent expenses, \$1,854.46. For postage, stationery and printing, \$265.63. For law expenses, \$1,686.53.

Making the total expenses of the company for the year 1867, (exclusive of interest and balance of loans of 1857), \$246,660.96, showing an excess of revenue over extraordinary, and current expenses to have been \$138,373.87; from this surplus there has been paid on interest account \$116,174.05 and loans of 1857 repaid \$20,000, amounting to \$136,174.05.

Owing to the severity and long duration of the past winter all the repairs and improvements contemplated, could not be done at the proper time, much, however, was accomplished in the way of repairing and renewing old and dilapidated lock-gates and water weirs, and in the preparation of material for use, when the weather would permit.

The opening of navigation was delayed for a few days in order to remove the deposits from the bed of the canal, which had at some points been accumulating for years and had become a serious obstruction to free navigation. These have all been removed, the canal restored to its original depth, and was opened its entire length about the first day of April.

These repairs and improvements have been attended with unusually heavy expense, but it is believed will more than justify the outlay by the increased facilities afforded for transportation and a reduction in the current expenses for the remainder of the season. In fact the condition of the canal at many points rendered it absolutely necessary that these improvements should be made to put the canal and all of its works in complete navigable order as the means of the company would justify, and it is believed that without some unforeseen disaster during the present season, the current expenses will be comparatively moderate.

From facts and evidence, laid before the Board of the depressed condition of the coal trade by the canal, this company was constrained to reduce the tolls on coal to one-fourth of one per cent per ton, per mile, so as to enable it to retain this valuable trade, coal being the chief source of revenue to the company, and without which reduction it would have entirely lost the trade and revenue from this source. The Board believe from the

amount of coal shipped on the canal as shown by the returns for April and May, of the present year, that they are fully justified in their action on this question.

In the annual report of June, 1865, a detailed statement appears of the outstanding current or floating debts of the company payable from their available surplus revenues, amounting to \$301,024.25, all of which has since been paid except about \$4,000, which the company was prepared to meet, had it been presented for payment, so that the floating debt of the company may now be regarded as substantially extinguished, and the future surplus revenues after the proper maintenance and improvements required to keep the canal and its works in good navigable order, will be applicable to the payment of the interest due on the bonds of the company, issued under the several acts of the General Assembly of Maryland according to their legal priority.

The interest in arrear and due on these obligations to the 1st of January, 1868, payable by the company are as follows:

Preferred bonds, bonds to Selden, Withers & Co.	\$140,000 00	
Interest due thereon to Jan. 1, 1868	134,000 00	\$274,000 00
Outstanding coupons from 1st of July, 1852, to 1st Jan., 1854, inclusive.....	\$61,335 00	
Of this class there has been paid during the current year.....	30,465 00	
Still outstanding...		\$30,870 00
Outstanding coupons from 1st July, 1854, to 1st Jan., 1868, inclusive.....		\$1,325,610 00
Certificates for funded coupons from 1st July, 1852, to 1st Jan. 1864.....	\$142,545 00	
Accrued interest to 1st Oct. 1853	4,295 44	
Interest due to 1st Jan., 1867	85,646 66	
	\$232,487 10	
Of this sum there have been paid for interest.....	83,889 81	
Balance outstanding to date.....		\$148,597 29
Repair bonds outstanding coupons prior to Jan. 1, 1853...		120 00
Outstanding coupons from Jan. 1, 1853, 1st Jan. inclusive.....		174,120 00
Total amount of interest due to 1st Jan., 1868, inclusive.....		\$1,953,317 29

The canal was opened its entire length, for navigation, this season about the 1st of April, the trade, particularly in coal, commenced and continued uninterruptedly until about the 15th of May, when on account of a sudden rise in the river, overflowing the

canal in some places for a great distance, damaging culverts and tow-path in many places, to such an extent, as to delay navigation for eight or ten days, the damage done having been repaired, the canal is now fully restored. The tonnage from the opening of navigation on the 1st of April, to the 31st of May, was 118,764 tons, against 94,942 tons for the same period last year, and the aggregate amount of tolls collected to 31st of May, was \$60,657.44, against \$77,083.05, during the same time last year, showing an increase of tonnage of 23,822 tons, and decrease of revenues of \$16,425.61.

Owing to the very limited quantity of land owned by the company at Cumberland, the President and Directors deemed it essential to the interests of the company, and with a view to provide for the constantly increasing shipments of coal and other articles, to take measures to procure more land by condemnation or otherwise, and they have now in process of condemnation, lands for the use of the company, which will add greatly to its advantage and increase its facilities for the shipment of coal, lumber, produce and other articles by canal to and from that point.

In conclusion we have the pleasure of presenting to the stockholders the gratifying fact, that though the expenses of the company show a slight increase over the expenditures of the year 1867, the improved condition of the canal in all its departments, and the constantly increasing development of the vast resources of the western portion of Maryland, through its agency, fully justified us in putting the work in the best possible condition, that the means at our command would allow, and we now believe we are fully authorized in saying that the canal to-day presents a better condition than ever before, with every facility, capacity and prospect of retaining its present business during the coming year. By order and in behalf of the Board.

ALFRED SPATES.

President of the Ches. & Ohio C. Co., Washington, June 1, 1868.

[Ascending tonnage.....	10,160
Descending tonnage.....	511,142
Total tonnage for year 1867.....	521,402 tons
Total tonnage for year 1866.....	383,408 tons

Increase for 1867.....	137,994 tons
Amount of capital stock.....	\$8,226,593 67
State of Maryland loan.....	2,000,000 00
Post notes, bonds, etc., to be added.	
Construction of canal as charged.....	\$10,635,702 66
Repairs "ordinary, extraordinary and general".....	2,530,861 40
Lands.....	421,324 81

The consolatory view, in the consideration of this historical canal (it was Washington's pet internal improvement), is that it pays out of income over all expenses, a large amount of interest, meanwhile that it keeps open a water route of descending lockage from the Cumberland coal region to tidewater in the Potomac.

The Chesapeake and Ohio Canal is of very great importance to Washington, Alexandria and Georgetown, also to Western Maryland and the coal region. And as Washington City will henceforward give more attention to the industrial arts and to trade, her business men at the same time looking out beyond the District farther and farther for customers, the Potomac valley will receive special attention, and the Chesapeake and Ohio Canal, from the accumulations of population and

traffic in the District of Columbia, in the Potomac valley, and in the Cumberland coal region, will carry more tonnage and earn more money from tolls.—Ed. Reg.]

Projects for the Relief of the Overcrowded Thoroughfares in London.

The report by Mr. William Haywood to the Commissioners of Sewers of the City of London, "On the Projects of the Railway Companies applying to Parliament," would be full of interest, if it did not deal with projects which are, for the most part dead, as far as the present session is concerned. But although it is profoundly true that "hope deferred maketh the heart sick," there are amongst these schemes some which will not be the worse if delay gives rise to discussion, and impresses on the public their metropolitan importance. The Metropolitan Railway has, we believe, been again compelled to withdraw its several schemes for connection with the North London or Outer Circle Railway. That referred to by Mr. Haywood traveled from Aldgate to Bow, and was the complement of the other dropped line from Clerkenwell to Canonbury. Their execution is a necessity to the North London Line, which can not remain permanently isolated. The Islington Railway is interesting, in spite of its short length, because it is designed as a viaduct of girders, supported on iron columns, like the Hungerford Bridge, and would thus reduce the obstruction during construction to a minimum, as well as the waste of land in permanent way. This system seems much more feasible than the railway under Oxford Street, to be excavated entirely by nightwork. This Hyde Park and City Railway is a magnificent conception, which, if made, must be of the greatest possible commercial value to the district traversed, and accommodated by its nine stations. The shopkeepers who met to protest against a plan for diminishing the crash of omnibuses and increasing the facilities for private carriages, must have been intensely stupid if they meant anything more than a preparation for heavy compensation claims. If it were proposed to obstruct the day traffic between the Marble Arch and Cheapside, there would be sound reason in the opposition. No compensation can pay for an obstruction that interrupts and diverts a retail trade. But here is the puzzle that no one seems to understand; Mr. Hawkshaw pledges himself that all the soil excavated shall be carried away at night—that is, he reduces his working hours to between ten in the evening and seven in the morning—hours at which double pay is given for half work. The outcry against interference with the sewers, in such mouths, is mere cant. That is a matter that may be safely left to the engineer of the Metropolitan Board. However, it is not so surprising that Oxford Street shopkeepers talk nonsense at public meetings about railways, when we remember that, a few years ago, Mr. Thomson Hankey, a Liberal and Free-Trader in Parliament, opposed a railway tunnel under Clapham Common, on the ground that, while in construction, the navvies would corrupt his maidservants, and, after construction, the rumbling of the locomotives would turn his beer sour and make his port wine thick. If Mr. Hawkshaw gets the capital for his underground line, he will be almost as fortunate as the inhabitants of Oxford Street and Holborn. The easier plan would be a viaduct behind the houses, on the girder bridge system of the Islington project.

The grandest idea that has been ventilated since the original underground line of Charles Pearson, is the Port of London and Billingsgate Railway, to which Mr. Haywood wisely devotes an unusual space in his report. This project, which can only be carried out by the assistance of the Corporation of London and the Metropolitan Board of Works, is intended to supersede the costly and dangerous extension of the Metropolitan District Railway to Tower Hill, and the excavation of the low-level sewer through the same densely populated and closely packed streets and alleys. It proposes to continue the Thames Embankment from Blackfriars Bridge to Tower Hill, carrying under it the Metropolitan District Railway, which would otherwise "mole" its way by Cannon Street, and to lay under the railway the continuation of the low-level Sewer. Thus there would, in strata or on shelves, be found an open embankment and roadway, next a subterranean railway, and in the final basement a sewer. The formidable opposition of the wharfingers is to be appeased by giving up to them the space enclosed at the present wharf level. It is proposed to take down and reconstruct Billingsgate on a greater scale. It would then have a fish traffic station in communication with all the lines working into the inner and outer circles. "Between Adelaide Place, London Bridge, and the eastern end of Billingsgate Market, a high level roadway, 60 to 70 feet in width, is to be formed, from whence it is to be carried in a northerly direction, 60 feet in width, to a junction with Lower Thames Street, near the Coal Exchange. . . The roadway starting from London Bridge will give an alternative line for traffic between the Docks and the east of London, which at present encumbers Fenchurch Street and Leadenhall Street." The convenience in construction and working that would be secured by taking the Underground from Blackfriars Bridge, with one arm to Billingsgate and Upper Thames Street for goods and warehouses, and the other forming a junction with the railway system of the inner circle at Snow Hill, is abundantly obvious.—*London Journal of Gas Lighting and Water Supply, January 19.*

Gold—The World's Idol.

In an article under this title in our issue of the 3d of December last, we endeavored, and we think succeeded in proving to our readers, that coal and iron are infinitely more valuable than gold, in the advancement of the nation's wealth, and that the homage at present rendered to Gold is nothing more nor less than Idol worship, and decidedly unworthy of the enlightenment of the age.

In that article we made certain statements which surprised the public generally, and much talk was created thereby, but we are very positive that our estimates were correct, and our assertion more moderate than the facts really warranted.

We then said and now repeat that:

"All the gold that exists in the United States to day, could be placed in a square box of less than fifteen (15) feet in length, width and depth.

A room 100 feet long, 100 feet wide, and ten (10) feet high, would hold eight (8) times the total amount of gold in the known world.

The "Golden Calf" worshipped by the would-be statesmen of our day, who desire an accumulation of Coin to the extent of \$250,000,000 in our National Treasury, as a basis upon which to resume specie payments, if

melted down would not fill a square box measuring nine (9) feet each way."

The above figures we were loth to believe correct, at first, but after examining the matter most thoroughly, were forced to the conclusion that we had not fallen into error.

In our researches after correct data upon which to base our figures as to the quantity of gold in the known world, we made other discoveries partially new to us, and which we think will prove of interest to our readers.

We give the same in the briefest manner possible:

The one and two cent coins now in circulation, are composed of Copper, 95 per cent., and Tin and Zinc, 5 per cent.

The three and five cent coins are composed of Copper, 75 per cent., and Nickel 25 per cent.

The weight of the 5 cent coin is 77.16 grains, the value of the Nickel is \$1.20 in gold, and the Copper 24 cents in currency per lb. The weight of the 3 cent piece is 30 grains; the 2 cent 96 grains, and the 1 cent 48 grains, from which we readily determine that the value of the 5 cent coin is \$0.00783, of the 3 cent \$0.00469, the two cent \$0.0041, and of the 1 cent, \$0.00205. We may therefore say, that in round numbers, a 5 cent piece is worth nearly 8 mills, and that 20 of them, or one dollar in face value, are worth as metal less than 16 cents; and that one hundred one cent coins are worth as metal 20½ cents.

Now we want the Bullionists to tell us what gives currency to these pieces, their intrinsic value, or the stamp of the Government?

From the report of the Secretary of the Treasury to the 40th Congress, we learn that the coinage of the U. S. Mint for 1868—was as follows:

Gold coin.....	\$18,114,425
" bars.....	6,026,810
Silver coin.....	1,136,750
Nickel and copper.....	1,713,385

Supposing one half of the last item were nickel coin and the other half copper, we will readily discover that the cost of the former in metal is \$137,070.80, and that the latter cost in metal \$171,388.50, making a total of \$308,409.30. If we add for the cost of coining 50 cents to each one hundred dollars or \$3,566.92, we have as the result of last year's coinage of nickel and copper alone, a profit to some one of \$1,396,408.78.

CHANGES of officers have been made in consequence of the consolidation of the Panhandle and the Columbus, Chicago & Indiana Central roads. We have heretofore announced that David S. Gray, the late Superintendent of the Union Star Freight Line, has become Second Vice-President and General Manager of the consolidated roads. Mr. J M Lunt remains General Superintendent of the Columbus line, and Mr. W. W. Card, of the Panhandle. Mr. C. W. Smith, the General Freight Agent of the Columbus line, and one of the best freight men in the country, is made General Freight Agent of the consolidated line. His office will be removed from Chicago to Columbus. Mr. James Means becomes General Eastern Freight Agent, with headquarters at Pittsburgh, and will pay attention particularly to through business from the East. Mr. France Chandler, the General Ticket Agent of the Columbus line, has resigned. Mr. S. F. Scull, General Ticket Agent of the Panhandle, takes the same position on the consolidated line. It is reported that an effort will be made to secure the ser-

vices of Mr. Chandler, who is one of the most efficient men of his profession, on one of the most important of this roads connections. George D. Whitcomb, Purchasing Agent of the Panhandle, is General Supply Agent of the consolidated roads.

The Public Debt.

The following is the statement of the Public Debt on March 1st, as compared with the preceding month:

DEBT BEARING COIN INTEREST.		Feb. 1. 1869.
5 per cent. Bonds.....		\$221,589,300.00
6 ½ cent Bonds, 1881.....		283,677,400 00
6 ½ cent 5 20 Bonds.....		1,602,583,350.00
		\$2,107,850,050.00
DEBT BEARING CURRENCY INTEREST.		
6 ½ cent Pac. R R Bonds.		52,017,000.00
3 ½ cent Certificates.....		57,410,000.00
Navy Pension Fund at three per cent.....		14,000,000 00
		\$123,427,000.00
Matured debt not presented for payment.....		6,910,936.64
DEBT BEARING NO INTEREST.		
U. S. Notes.....		356,021,073.00
Fractional Currency.....		35,211,127.54
Gold Certif. of Deposit.....		32,659,520.00
		424,191,720.54
Total Debt.....		2,662,379,707.18
Amount in Treasury, Coin...		88,732,716.44
" " " Cur'y...		17,441,332.66
		106,174,949.10
Amount of Debt, less Cash in Treasury.....		\$2,556,105,658.18
DEBT BEARING COIN INTEREST.		March 1, 1869.
5 per cent. Bonds.....		\$221,589,300.00
6 ½ cent Bonds, 1881.....		283,677,400.00
6 ½ cent 5 20 Bonds.....		1,682,587,360.00
		\$2,107,854,050.00
DEBT BEARING CURRENCY INTEREST.		
6 ½ cent Pac. R R Bonds.		53,937,000.00
3 ½ cent Certificates.....		57,140,000 00
Navy Pension Fund at three per cent.....		14,000,000.00
		125,077,000.00
Matured debt not presented for payment.....		6,492,463.64
DEBT BEARING NO INTEREST.		
U. S. Notes.....		356,021,073.00
Fractional Currency.....		36,781,547.50
Gold Certif. of Deposit.....		28,775,560.00
		421,578,180.50
Total Debt.....		2,660,931,994.14
Amount in Treasury, Coin...		98,741,260.72
" " " Cur'y...		16,853,529.04
		115,594,789.76
Amount of Debt, less Cash in Treasury.....		\$2,545,336,904.38

The following are the changes in the details of the public debt statement, compared with the return of February 1:

Total Net Debt.....	Decrease,	\$11,769,000
Coin in Treasury.....	Increase,	10,009,000
Currency in Treasury.....	Decrease,	588,000
Gold Certificates	"	3,884,000
Fractional Currency.....	Increase,	1,270,000
Overdue Debt.....	Decrease,	488,000
Pacific R. R. Bonds.....	Increase,	1,920,000
3 p. c. Certificates	Decrease,	270,000
Coin owned by Treas'y.....	Increase,	13,893,000

The statement shows the large reduction of \$11,700,000 in the net debt. This diminution is due mainly to the large customs' receipts, which have caused an increase of \$13,900,000 in the coin owned by the Treasury. It must be remembered, however, that on the 1st instant about \$5,000,000 of coin became payable on account of interest on the Ten Forty Bonds. In the currency balance there is a decrease of \$588,000, which is much less than was expected, and relieves the money market of an apprehension that it might become necessary for the Government to sell gold, as a means of supplying itself with currency. It is furthermore an evidence that the receipts from internal revenue are keeping up to the requirements of the government. In the Pacific R. R. bonds there has been a further issue to the extent of \$1,920,000. These authorizations are now well nigh closed, and we shall consequently soon cease to witness an apparent monthly increase of the debt from this source.

Iron Ore Mined on Lake Superior.

The *Marquette Journal* has been favoring its readers with a "History of Iron Mining on Lake Superior," from which, under the sub-head of "recapitulation," we copy the subjoined interesting and instructive exhibit of the quantity of iron ore mined in 1868, and also of the total product of each mine from commencement of production:

RECAPITULATION—"We have thus gone through with the list of mines, giving as far as possible all the facts relating to their early history, together with the product of each, for each year, since the first opening was made in the district. The figures when summed up make the following exhibit of the total product for the district for 1868:

	Gross tons.
Jackson.....	131,707
Cleveland.....	102,213
Marquette.....	7,977
Lake Superior.....	105,745
New York.....	45,665
Lake Angeline.....	27,651
Edwards.....	17,360
Iron Mountain.....	3,836
Washington.....	35,757
New England.....	8,257
Champion.....	6,255
Barnum.....	14,380

Total.....507,813
Product for 1867.....466,076

Increase..... 41,737

"The following table exhibits the total product of each mine during the time they have been worked:

	Gross tons.
Jackson.....	695,131
Cleveland.....	485,215
Marquette.....	35,321
Lake Superior.....	634,877
New York.....	142,942
Lake Angeline.....	137,982
Edwards.....	25,131
Iron Mountain.....	16,594
Barnum.....	14,380
Foster.....	6,000
New England.....	20,482
Washington.....	91,129
Champion.....	6,255
Total.....	2,311,439"

The Prussian Railway System.

The *Staatsanzeiger*, of Berlin, has lately directed attention to this subject, and gives a statement of all important facts down to the end of 1867. The article does not treat of the provinces annexed to Prussia in 1866:

At the end of the year 1844, 114 German miles (one German mile is a little less than five English miles) of rail were open in Prussia; of these eighteen had a double track. At the end of 1867, 954 German miles were open, of which 350 were double. Of these 246 miles belonged to the State. The traffic has risen in proportion to the increase of facilities, the number of passengers having increased during the period above mentioned from about 4,000,000 to 39,000,000. These facts become more striking when we turn to the separate lines. That between Berlin and Hamburg, which belongs to a private company, and of which the length has remained almost the same since it was first opened, carried, in 1867, 1,324,241 persons, against 524,697 in 1846, while the goods traffic has risen from 1,218,734 to 11,502,197 tons. Again the line between Magdeburg and Leipsic, which was built in 1840, and remained unaltered in length until 1857, when a short line of about three German miles and a half was added, shows also a great increase. In 1841 it carried 353,201 persons and 570,815 tons of goods; in 1857, 935,594 and 10,197,207; while in 1867 the traffic was no less than 1,179,448 and 26,000,000. The capital invested in Prussian railways which were open at the end of 1867 amounted to 520,439,652 thalers; of this sum 128,411,870 had been employed on lines belonging to the State; 122,291,816 on private lines managed by the State, and 269,735,966 on those entirely in the hands of private companies. The stimulus which the railways in Prussia have given to industry can not be stated in figures. The estates that lie in the districts through which they pass always rise in value, and sometimes attain nearly double their former market price. In provinces where the land is principally in the hands of peasant proprietors this frequently means that thousands of families gradually rise from poverty to comparative affluence. Hence the influence of railways is often felt by people who never enter one of the carriages.

CALIFORNIA.—Few people have an idea of the extent of California. The State is 700 miles long, about 200 wide. San Francisco and Sacramento together have a population of about 170,000, leaving about 300,000 population for this vast area of country—as large

as all New England and New York and Pennsylvania together—an area large enough and rich enough to sustain a population of 30,000,000. It would make a large-sized European kingdom. The State will have 13,000,000 bushels of wheat to spare, which will bring in from \$48,000,000 to \$20,000,000. The wood clip is larger than ever before. The vintage promises to be the best ever gathered. Twenty-five million grape vines are in bearing, and new vineyards are the order of the day. The State has just begun its net-work of railroad, soon to be connected by the long spider thread across the continent. The development of the State promises to be more rapid during the coming months than ever before. —Eastern Exchange.

A new idea in cotton planting, originating with a Frenchman is finding favor in California. It is to plant the seed early, in wide-bottomed jars, in the house, and set out the plants as early as the season permits—thus saving three weeks in the harvest, and by that saving avoiding entirely the dreadful ravages of the worm and caterpillar. This curse of the cotton planters will turn a handsome fifty-acre field into a brown, dead waste, as if a fire had passed over it, in one day and one night.

The rapid increase in the annual clip of wool in California, now forty-two-fold what it was thirteen years ago, shows that sheep farming is a very profitable business to all concerned. According to these figures, the man who, in 1855, had one hundred ewes, should have now 4,200 sheep. Besides this wonderful increase of his principal, says the *San Francisco Bulletin*, he has enjoyed an annual income from his wool which would enable him, after the first three or four years, to support a family in all the conveniences and reasonable luxuries of California life. But grain farming has also been profitable, and the ploughmen are competing with the shepherds for the vacant lands.

NEW METHOD OF HEATING CARS.—A new method of heating passenger cars has been recently tried on the Connecticut River Railroad, and which the *New Haven Journal* describes as follows: A bonnet is placed on the top of the car at each end, to catch the wind while the car is in motion and the air rushes down a pipe in the corner inside, close to a stove which is made a hot air jacket, and attached to the chamber formed by the heater and jacket surrounding it. On the floor of the car stands a closed box, partly filled with water. The air, whether filled with dust or not which enters the bonnet, rushes directly into this water box, where it is thoroughly washed, and passing into the heater, is forced in an absolute pure state into pipes that run near the floor, the whole length of the car, on each side and under seats. At proper intervals these pipes are perforated with small holes, through which the heated and purified air then escapes. The whole arrangement gave great satisfaction to all on the cars, and it is thought that a great advantage has been gained to the traveling public by this invention. The apparatus is as easily governed and regulated as the simplest stove, and not at all cumbersome, but quite light and ornamental, and does not cost half as much as some other attempts at car-heating apparatus. The warmth is distributed equally throughout the entire length of the car, and coming down low toward the floor will enable passengers to always keep their feet comfortably warm.

MINING ON THE PACIFIC COAST.—A San Francisco paper gives an elaborate review of the mining operations on the Pacific Coast during the year 1868. Mining for the precious ores is carried on actively in nineteen counties of California, in which about 5,000 quartz mills, valued at \$6,500,000, are employed. Ten Million dollars are invested in water trenches. Nevada has 168 quartz mills; Oregon, 21; Idaho, 43; Montana, 601. In the Territories of New Mexico, Arizona, Utah and Washington, although large deposits of the precious ores are known to exist, mining operations are not conducted on any considerable scale. The general yield in the year 1868 is the largest in the history of mining in the United States, one of the causes being the introduction of improved and much cheaper methods of eliminating the precious metals from their native ores. This total yield for the year is set down at about \$65,000,000.

YIELD OF PRECIOUS METALS.—The following is the officially estimated mineral yield of the States and Territories for 1867 and 1868, with the entire product of the precious metals from 1848 to January 1, 1869:

	1867.	1868.	Total.
California.....	\$25,000,000	\$20,000,000	\$920,000,000
Nevada.....	20,000,000	18,000,000	108,000,000
Montana.....	12,000,000	12,000,000	77,000,000
Idaho.....	6,500,000	6,000,000	61,000,000
Washington.....	1,000,000	1,000,000	11,000,000
Oregon.....	2,000,000	5,000,000	25,000,000
Colorado.....	2,500,000	4,000,000	20,000,000
New Mexico.....	500,000	250,000	2,750,000
Arizona.....	500,000	250,000	2,750,000
Miscellaneous.....	5,000,000	5,000,000	50,000,000
Retained for plate, jewelry, &c.....	.....	.....	55,000,000
Total.....	\$75,000,000	\$71,500,000	\$1,331,500,000

Receipts of the Western Union Railroad Company for the week ending March 14:

	1869.	1868.	Inc.	Dec.
Freight.....	\$9,455 36	\$1,822 54	\$8,132 82	.....
Passengers.....	3,205 65	1,421 15	1,784 40	.....
Express and Tel.	350 00	350 00	.....	.....
Mail.....	375 00	375 00	.....	.....
Totals.....	\$13,889 91	\$3,968 79	\$9,929 22	.....

Receipts from January 1, to March 14:

1869.....	\$112,422 30
1868.....	92,104 17
Increase.....	\$14,318 13

TO CONTRACTORS.

Pittsburgh & Connellsville R. R.

PROPOSALS WILL BE RECEIVED up to Saturday, May 1st, inclusive, for the GRADUATION, MASONRY and BALLASTING of the remaining 47 sections of this road, situated at intervals upon the 90 miles between Connellsville and Cumberland.

Specifications will be ready for distribution at the Pittsburgh and Cumberland offices on Friday, the 9th of April, and all information necessary to the proper examination of the work will be afforded by the Engineers upon the line.

By order of the President and Directors.

BENJ. H. LATROBE, Chief Engineer,

OFFICE PITTSBURGH & CONNELLSVILLE R. R. CO.,
Pittsburgh, March 18th, 1869.

25-3-6t

T. F. Randolph,

MANUFACTURER OF

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SPECIALTY,

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SUSPENSION

COUPON TICKET CASE.

BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the long-end package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF NO. FORMS.	PRICES.	SIZE NO. OF NO. FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 256	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without portings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms, and also with working plans, if desired.

BACON & EVERINGHAM,
Milwaukee, Wis

All orders addressed to us will receive prompt attention.

WRIGHTSON & CO.

167 Walnut St., Cincinnati,

R. W. CARROLL & CO.

Wholesale and Retail

BOOKSELLERS AND STATIONERS,

No. 117 West Fourth Street,

CINCINNATI, **MO**

Keep always in stock a full assortment of

BOOKS & STATIONERY AT LOWEST PRICES.

BLANK BOOKS

Of any desired pattern made to order promptly.

Particular attention paid to BLANK BOOKS and BLANK WORK for

RAILROADS, BANKERS,
MERCHANTS, INSURANCE COMPANIES,
MANUFACTURERS, EXPRESS COMPANIES,
PUBLIC OFFICES, Etc., Etc.

BINDING OF ALL KINDS NEATLY EXECUTED.

Those desiring FIRST CLASS BOOKS can have them done satisfactory at reasonable prices.

R. W. CARROLL & CO.

117 West Fourth Street, 2 doors east of Race.

WM. MERCER, R. B. MORE, GEO. STODDARD
Late Master Car Builder C.H. & D. & D. & M.

MERCER, MORE & CO.,

BUILDERS OF EVERY DESCRIPTION OF

RAILROAD CARS

Cambridge, Ind.

REFERENCES.

MITH, Pres't, C.&I.C. Railway, Columbus, O.
J. M. RIDENOUR, Pres't, C.&I.J.R.R. College Cor., Ind.
J. M. LUNT, Sup't, C.&I.C.R.R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C.H. & D. R.R., Cincinnati,
J. H. WELLER, Ass't Sup't, D.&M.R.R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C.&I.J.R.R., Hamilton
O. W. SMITH, Gen. Ft. Agt. C. & I. C. R.R., Indianapolis
Aug. 2, 1866.]

THE

STEAM SYPHON PUMP

IS THE

Most Simple, Effective and Durable Device for
Raising Water by steam, yet discovered.

It is an independent LIFT AND FORCE PUMP, with-
out piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP.

WITH THE

STEAM SYPHON WATER-STATION

A locomotive can raise water, with its own steam, to fill
its tender in the same time as from an ordinary tank;
thus dispensing with tanks, pumping ma-
chinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops
Shops, Elevators, &c.,

AND BY FAR,

THE BEST BILGE PUMP,

for Steam Vessels, in use

For Circulars and other information, address,

STEAM SYPHON COMPANY,
48 Dey Street,
NEW YORK.

VERY CHOICE

Oil Lands

IN

Kentucky & Tennessee,

FOR SALE BY

T. WRIGHTSON,

167 Walnut Street,

CINCINNATI

THROUGH —FROM— CINCINNATI TO NEW YORK

WITHOUT CHANGE OF
COACHES!

—VIA—

Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W.
Railway, on Saturday Morning, by the 6:00 a.m. Lightning
Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next
day, Sunday

2 Through Lightning Express Trains for New York.
Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6.15am.....	7.10pm
" Dayton.....	8.35 ".....	9.30 "
Arrive West Salem.....	1.50pm.....	4.53am
" Leavittsburg.....	4.55 ".....	7.35 "
" Meadville.....	7.35 ".....	11.10 "
" Susquehanna.....	7.48am.....	11.29pm
" Paterson.....	2.25pm.....	6.03am
" New York.....	3.15 ".....	7.00 "
" Boston.....	5.45am.....	4.45pm

Sleeping Coaches on Night Trains the entire distance
between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday
night instead of Saturday night. All other
Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
At Mansfield with Pitts. Ft. Wayne
and Chicago Railroad.

THIS IS THE ONLY ROUTE TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely
new, of the most modern, substantial, and approved de-
scription, unequaled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all
Trains.

Ample time is allowed, at all hours,
for meals.

No effort will be spared by the Company to render a trip
over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE
CHECKS,

Apply in Cincinnati at New Depot of Cincinnati, Hamilton
and Dayton Railway; or at the northeast corner of Broadway
and Front streets, and at No. 80 Fourth Street, nearly op-
posite Post Office. Also at any of the principal Railroad
and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. RUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1866, three Express
Trains will leave New York daily (Sundays excepted) via
Central Railway of New Jersey, and Allentown, leaving
Pier 15, foot of Liberty street, North River, at 7:00 and
2:00 a. m. and 12:00 p. m. On Sundays, one Express Train
at 8:00 p. m.

Passengers by this route save 60 to 130 miles, and Two
Hours Time over other Lines, with but one change
cars to Chicago or Cincinnati, and but two to St. Louis.
Passengers from the East by Sound Boats or by Rail in the
morning, will have time for Breakfast before leaving the
City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. E.)

7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives
at Harrisburg 2 p. m., Pittsburg 12 night

9:00 a. m.—MORNING EXPRESS, for the West. This
train leaves New York Two Hours later than other Lines,
and arrives at principal places West at the same time.

12:00 p. m.—WAY TRAIN, connecting at Easton with
Lehigh Valley Railway to Mauch Chunk; at Reading with
Philadelphia & Reading Railway for Pottsville, arrives at
Harrisburg at 8:30 p. m. Without change of cars from
New York to Harrisburg.

8:00 p. m.—EVENING EXPRESS, for the West with
but one change to Cincinnati or Chicago, and but two to
St. Louis. This train leaves New York Two Hours later
than other Lines, and arrives at principal places West at
same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives
at New York at 6:00 a. m. next day.

3:00 a. m.—EXPRESS TRAIN, from the West, leaving
Pittsburg at 4:20 p. m.; passes Harrisburg at 3:00 a. m.;
leaving at 4:49 a. m.; Allentown at 6:00 a. m.; Easton at
7:09 a. m. Through cars from Pittsburg to New York.

9:05 a. m.—FAST LINE, from the West, leaving Pitts-
burg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Read-
ing at 10:52 a. m.; Allentown at 12:12 p. m.; Easton at
1:10 p. m. Through cars from Pittsburg to New York.

7:25 a. m.—WAY TRAIN, from Harrisburg, passing
leaving at 10:40 a. m.; Allentown 12:20 p. m.; Easton
at 1:35 p. m. Through cars from Harrisburg to New York.
Arrives in New York at 5:20 p. m.

2:10 p. m.—FAST MAIL, from the West, leaving Pitts-
burg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Read-
ing at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at
7:20 p. m. Through cars from Harrisburg to New York
Arrives in New York at 10:45 p. m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7.00 A. M.	9.10 A. M.
Springfield & St. Joseph Ex.....	12.00 P. M.	4.30 P. M.
St. Louis & Chicago Ex.....	4.55 P. M.	12.15 A. M.

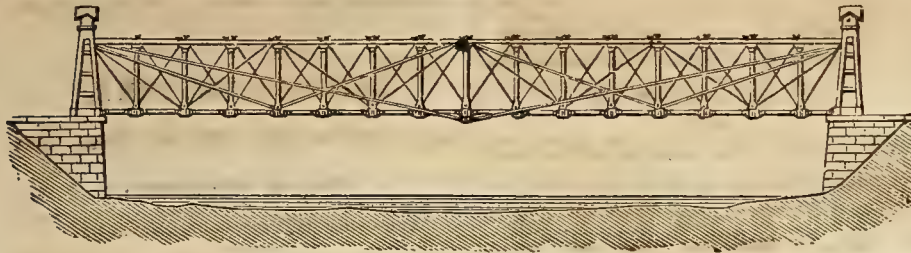
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Ac- commodation.....	5.15 P. M.	5.05 A. M.
Harrisburg Accommodation.....	10.10 A. M.	2.25 P. M.

Through Tickets can be obtained at the Burnet House-
Spencer House and Gibson House Offices; also at the
Depot. The Passenger Depot of the Indianapolis & Cin-
cinnati Railroad is within a few squares of the pri-
ncipal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD, General Ticket Agent.



(Plan of Bridge)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1392.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail and work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines. And several classes or sizes of each kind. Particular attention paid to the strength of the machine in the plan and construction of all the details. Our long experience and opportunities of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings, every description of Copper, Sheet Iron and Boiler Work, and every article pertaining to the repair or renewal of Locomotive Engines.

KNOX & SHAIN,
ENGINEERING & TELEGRAPHIC
INSTRUMENT MAKERS

Philadelphia, Pa.

W. M. F. HEWSON,
STOCK BROKER,

21 WEST THIRD STREET, CINCINNATI.

Buys and sells Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collections

AMERICAN BANK NOTE COMPANY

Bank Note Engravers & Printers.

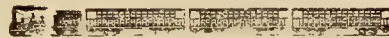
Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
S. E. Cor. Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURGH, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads, still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent
Pittsburg, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

[WITH]

Productive Wells all

around them.

FOR SALE BY

T. WRIGHTSON,

167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

—IN—

Railroad, Car and Machine Shop

SUPPLIES,

—AND—

MACHINERY OF EVERY DESCRIPTION

68-Broadway, New York,

121 West Front Street, Cincinnati.
330 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.

Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly. Sent for the celebrated Wheels, either single or double play with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner the shortest notice, and on the most reasonable

PASSENGERS

Purchasing Tickets via

Baltimore & Ohio R.R.

-TO-

BALTIMORE,

PHILADELPHIA,

NEW YORK, and

BOSTON,

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON

Fare to Washington City same as to Baltimore.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
NO. W. BROWN, General Passenger Agent. } Dec. '67.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Rich- mond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Burnett House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.

JANUARY 5th, 1868.

Cincinnati to St. Louis Without
Change of Cars.**Ohio & Mississippi Railroad,**For St. Louis, Cairo, Louisville, Evansville, St. Joseph
Jefferson City, and all points on the Lower Mis-
sissippi River, and on the the Illinois
Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI.	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR.	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES.	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN.	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL.	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS.	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cincinnati.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine
Street; Corner Front and Broadway; and at Depot, Foot
of Mill Street.C. E. FOLLET Gen. Passenger Agent
J. W. CUNLUGUE,
General Superintendent

Best Route to St. Louis and Chicago

INDIANAPOLIS,
CINCINNATI
—AND—
LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,
CAIRO,
CHICAGO,Memphis, New Orleans, Springfield, Quincy
Keokuk, St. Joseph, Des Moines, Omaha
And all Rail and River Towns and Cities in the West.
North west and South-west.5 THROUGH TRAINS DAILY,
(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express.....	7.00 am	10 50 pm
Indianapolis and Cairo Express.....	6.30 am	2 30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3 00 pm	4 08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and
Chicago.

Elegant Sleeping Cars on all night trains.

ACCOMMODATION TRAINS.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.10 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.00 pm

Through Tickets can be obtained at the Burnett House
Office, corner of Third and Vine; River Office, corner of
Walnut Street and River; and at Depot, corner of Plum
and Pearl streets. The splendid Passenger Depot of the
I. & C. Railroad is about a mile nearer the business center
of the city than the Depot of any other railroad, and with-
in a few squares of the Postoffice and principal hotels and
Steamboat landings.

J. F. RICHARDSON, Superintendent.

A. E. CLARK, General Ticket Agent.

MOSELEY'S WROUGHT IRON ARCH

BRIDGES,

AND.

CORRUGATED IRON ROOFS

ARCHED AND FLAT.]

CORRUGATED SHEETS, OF ALL SIZES. CON-
stantly on hand, painted, and ready for shipment,
with instructions for applying them.MOSELEY & CO.
Boston, Mass.

EDWIN J. HORNER,

Successor to

McDANIEL & HORNER,



Locomotive and Railroad

CAR SPRING MANUFACTURER,

Wilmington, Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn

JOHN A. WRIGHT, Sup't.

This Iron is all made from best Juniata cold-blast char-
coal Pig Iron, refined with Charcoal in the old-fashioned
Forge Fire, hammered into a Bloom from which Iron
hammered. The whole operation from ore to finished Iron
is conducted at our own Works June 9THE SCHENECTADY
LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.,

Continue to receive orders and to furnish with promptness
the best and latest improvedCOAL OR WOOD BURNING
LOCOMOTIVE ENGINES

AND OTHER

Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

The above works being located on the New York Central
Railroad, near the center of the State, possess superior
facilities for forwarding their work to any part of the coun-
try without delay.

JOHN ELLIS, President.

WALTER McQUEEN, Sup't.

PASCAL IRON WORKS.

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

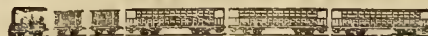
Lap-Welded American Charcoal Iron Boll-
er Flues—from 1 1/4 to 10 inches outside diameter, cut
to definite lengthsWrought Iron Welded Tubes—from 1/2 inch to
8 inches inside diameter, with screw and socket con-
nections, for Steam, Gas Water, or other purposes, and fit-
tings of every kind to suit the same.Wrought Iron Galvanized Tubes—strong
and durable, designed especially for Water purposes.Cast Iron Gas or Water Pipe—1 1/2 to 24 inches in
diameter, and branches for same, &c.,
Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. P. M. TASKER
HY. G. MORRIS.

Philadelphia, Wilmington & Baltimore

RAILROAD!



FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY
4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
Express; 2.30 P. M.; 11.30 P. M. night.On Sundays, 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West, 7.35 A. M.; 9.20
A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
P. M. (Express)SUNDAY TRAINS—Leave Philadelphia for Baltimore
at 7.30 Washington at 4.15 A. M. and 11.00 P. M. Leave at
Baltimore for Philadelphia at 8.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave
Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD,
T. WRIGHTSON, } Editors

CINCINNATI:
THURSDAY, APRIL 1, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street.
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.
One square, single insertion..... \$ 1 00
" " " per month..... 3 00
" " " six months..... 12 00
" " " per annum..... 20 00
" " " column, single insertion..... 5 00
" " " " " per month..... 10 00
" " " " " six months..... 40 00
" " " " " per annum..... 80 00
" " " page, single insertion..... 75 00
" " " " " per month..... 25 00
" " " " " six months..... 110 00
" " " " " per annum..... 200 00
Cards not exceeding four lines, \$5.00 per annum.

WRIGHTSON & CO.,

Proprietors.

Railroad Extension South.

COST OF THE WORK.

HOW TO DO IT.

At the meeting of the Board of Trade on last Wednesday evening, a very interesting report was read on the subject of connections with the Southern system of railroads. It is not for the lack of having *enough said* on the importance of the subject, the road is not built. It has been *talked at, reported on, and resolved* into complete working order so often, that the result of its so frequent construction has become truly lamentable. There has become a sort of morbid sensitiveness on the part of our citizens on the subject of Southern connections, that is really irksome. Indeed, the Southern railroad is a kind of *ignis fatuus* in the public mind, that is most implicitly and religiously believed in, and equally beyond reach by any process of "wind-mill work" yet known to speakists or paraphrasiasts.

The real fact of the matter is, that there is but one way to obtain this coveted outlet for our commerce and manufactures. That is to put our hands in our pockets and pay for it. The proposed amendment to the constitution will enable the city, in its corporate capacity to do this. This, however, is a slow process, and will require eighteen months or two years, before it can be made effectively operative.

Let us look for a moment and see what is necessary to do to build the portion of road that will give us complete connection with the Southern roads. *First*, It is contended that Cincinnati should control this road. It is a self-evident proposition, to do this, Cincinnati will have to furnish money to pay for it. This being admitted, it is important to inquire. *Second*, What will it cost. *Third*, How can it be done—or what are the resources at hand to accomplish the work.

To answer the second proposition, it is necessary to decide where you want to start from, and where to go to. To be a Cincinnati road, it must begin at Cincinnati. We think this so palpable that we will not undertake to discuss it, but "where it is to go to" is not so well settled. Indeed, there are many objective points, each of which has its advocates. It is claimed by some that the Ky. Cen. should be extended from Danville to Nashville as the grand point, from which all connections with the Southern system of roads can best be obtained; or that Bowling Green on the Louisville and Nashville road is even better than Nashville, as that will give us also the direct connections with Memphis as well as with Nashville, and make us masters of the South and South west trade. But, we will soon have both of these connections in the Cincinnati, Louisville and Lexington road, to be finished next summer, on as short a line, and by as good a route as can possibly be constructed; besides to one of these points we have river communication nearly all the year round, and with the other perhaps about one third. The advocates of the above are, we believe not numerous, but still their opinions are entitled to respect.

Others, again, are equally enthusiastic in favor of a Knoxville connection, or with the Virginia and East Tennessee road in the valley of the Sweet Water, while others again insist on a through road to Chattanooga. We remark that the Knoxville people are building a road (and it is now nearly done) to meet us or somebody else, at the Kentucky State Line; Nashville has said that they will do the same; and Chattanooga, not to be behind the rest, has made a like proposition to meet our trunk line at the Emory River gap. Our opinion is that a trunk line to the Kentucky State Line *would* answer the desired purpose; but that a through line to Chattanooga would be infinitely better. All other points with a little aid by the road when running would build branches to meet it.

COST OF THE WORK.

The following estimates of the cost are made by reliable engineers, from actual surveys. Those in Kentucky, and in Tennessee to the Emory River gap, by Wm. A. Gunn, Esq., while from that point to Chattanooga are made by Col. Wm. B. Gaw, the engineer in charge of the Cincinnati and Chattanooga Railroad.

CINCINNATI TO CHATTANOOGA.

99 miles Covington to Lexington, as per S. H. Goodin's Book—	
Bonds.....	\$2,500,000
Cash.....	\$30,000
	\$3,330,000
13 miles, Lexington to Nicholasville	
Bonds.....	200,000
Stock.....	200,000
	400,000
113 miles, Nicholasville to State Line.....	4,633,068
225 miles, total cost Cincinnati to State Line.....	\$3,413,058
56 miles, State Line to Emory River, as per estimates of Gunn, at \$40,000 per mile....	2,240,560
79 miles, Emory River to Chattanooga (Gaw)...	2,765,611
Add for contingencies.....	300,771
300 miles, total Cincinnati to Chattanooga.....	\$13,800,000

RESOURCES.

Cash stock.....	\$2,000,000
Bonus from Cincinnati.....	650,000
Bonus from Kentucky.....	650,000
Bonds on Kentucky Cent. (89 miles of road)....	2,500,000
Bonds and stock, as above, to pay for Danville road.....	450,000
Bonds on 113 miles to State Line.....	2,163,068
Total resources to State Line.....	\$8,413,058
If it should be determined to push on to Chat- tanooga it would require an additional bonus from Cincinnati.....	500,000
Bonus from Tennessee.....	500,000
Bonds on 135 miles more of road.....	4,386,942

Total.....\$13,800,000

It will be seen from the above that to buy the Kentucky Central R. R. and complete the trunk road to the State line, and for Cincinnati to own and control it, there will be necessary to obtain a stock subscription of only \$2,000,000, and a bonus of \$650,000; or if the road is to be built, as a unit, through to Chattanooga, there is only the additional sum of \$500,000 bonus required. If the conditions of either of these propositions are complied with, we have such assurances from parties connected with European capitalists to warrant us in saying that we will guarantee the remainder, and give to Cincinnati a thoroughfare to the South, of which she may be justly proud. The time for action is now. Cincinnati can not afford to *wait* for the Constitutional Amendment (there are, however, plenty of other enterprises for which the amendment is needed and should be passed) before that can be brought to effect her relief, the road *could* and *should* be running. Suppose we don't all contribute alike, and that those who don't contribute at all are equally benefitted, what difference will it make to those who do contribute, if they are like the man "who sowed his bread on the waters." Shall we build the Southern road? Is Cincinnati ready for the question? *We* are prepared to put it.

New Music.—We have received from the enterprising music house of John Church, Jr.,—the following new pieces that are among the "gems" in this line with which this house is adorning the musical world.—"Baby Mary," "Yonder Stands the Little Cottage," "Up in a Balloon," "Where's My Nancy," "The Lord of the Mine," and "The Secret in My Breast."

We have had these pieces played over and over again in our family, and so enjoyed them, that we advise every lover of music to get them as soon as possible, and become equally happy as ourselves.

Commerce of Cincinnati.

The other day we stepped into the Chamber of Commerce, at the hour called "Change," which, we suppose, is an abbreviation for Exchange, and that again a sort of metaphoric symbol for Commerce. There were a good many things about the place and the meeting, to call up memories to one familiar with the early scenes and history of the city. In the first place, the Chamber held its meetings over the graves of the pioneers; for, here was the first grave yard. The First Presbyterian Church having seized upon half the Public Square, proceeded to make a graveyard of one part and put the Lancasterian School on another. The Lancasterian School was made into Cincinnati College, and the Chamber of Commerce meet in the College Building. Then there arose the associations of the College and the dead. Around Cincinnati College cluster and linger much of all the memories of Cincinnati. But it is not of this we would speak. There was a large miscellaneous collection of people who, evidently, had not been bred in ladies parlors nor clothed by fashionable tailors, were assembled, talking pork, flour and whisky. Precisely at 12 M., a rap from the Superintendent announced the telegraphic dispatches, and they were read off in a distinct, but monotonous tone, which, evidently, said, "There is no speculation here." And there was none. In fact, the complaints about the "times" and the "dullness of trade" arise from the simple fact that there is no speculation. We Americans are a very speculative people. In the war, speculation was in every thing, and all forms and materials of commerce were speculatives. Money itself offered the greatest of all speculations. Prices ran up and down through the whole gamut of commerce, and the commercial mind was active, imaginative, flying from one kind of speculation to another with immense activity. Now this is over. Peace has come, and nearly all kinds of business have settled down into the ordinary routine. This seems dull; it seems unprofitable; and so we have so great a manufacturer and respectable Senator as Mr. Sprague declaring the country in a state of collapse, trade declining and morals corrupted. This is pure imagination, but it is very natural. Mr. Sprague finds the price of cotton higher than is consistent with the price of his cloth, and he feels disturbed in his purse; but the high price of cotton is a good thing for the country. It is bringing up the Southern planters and restoring the exchanges. But Sprague can't raise the price of his cotton in proportion, and hence, he sheds tears over his misfortunes. But we must proceed. We were at the Exchange, and that brought up to our mind the progress of Cincinnati commerce, which, in spite of all croaking, does increase pretty rapidly.

The best way to illustrate this, will be by

showing the imports and exports of 1860-61 with those of 1867-8, by the quantity, because the variations of the currency have been too great to fix any exact standard. We will select, as far as possible, manufactured articles, for they show the real progress of the city. The following table shows the exports of soap and candles, which is one of the important manufactures of the city:

1861.....	69,836	138,234
1862.....	113,687	245,997
1863.....	76,005	263,912
1864.....	63,078	217,412
1865.....	59,810	214,509
1866.....	82,990	249,134
1867.....	98,805	319,285
1868.....	278,459	195,358

This shows an increase of fourfold in soap and of 50,000 boxes in candles.

The following are the shipments of cabinet ware and chairs:

	Furniture, packages.	Chairs, dozens.
1860-61.....	11,634	8,151
1861-62.....	17,516	5,384
1862-63.....	38,452	12,498
1863-64.....	39,165	14,505
1864-65.....	57,035	16,724
1865-66.....	78,004	27,993
1866-67.....	73,756	24,613
1867-68.....	48,772	17,447

The following are the exports of iron:

	Tons.	Pieces.	Bundles.	Pg. Tons.
1861.....	4,281	327,205	107,964	5,143
1862.....	7,982	258,730	55,550	5,302
1863.....	13,332	177,278	39,623	4,968
1864.....	15,832	124,792	36,019	10,826
1865.....	10,598	135,311	28,285	8,532
1866.....	27,030	154,800	10,485	29,005
1867.....	35,556	142,423	41,263	14,571
1868.....	11,363	59,042	244,808	18,254

The imports and exports of lard oil were:

	Imports.	Exports.
1860.....	24,844	50,840
1861.....	43,549	53,803
1862.....	24,025	58,465
1863.....	15,059	78,429
1864.....	11,353	83,740
1865.....	65,348	73,633
1866.....	16,836	106,202
1867.....	15,950	126,957
1868.....	13,776	103,976

The following were the imports of petroleum the last seven years, each year ending August 31:

	Bbls.
1861-62.....	21,926
1862-63.....	20,865
1863-64.....	48,131
1864-65.....	50,295
1865-66.....	100,870
1866-67.....	113,077
1867-68.....	101,363

The following were the imports and exports of starch:

	Boxes.	Boxes.
1860.....	36,661	43,054
1861.....	28,270	33,863
1862.....	59,758	60,682
1863.....	28,062	69,248
1864.....	48,875	58,088
1865.....	55,591	57,841
1866.....	120,833	112,859
1867.....	142,447	153,821
1868.....	139,617	154,019

SALT.—This is one of the articles in which Commissioner Welles signalized himself by a most palpable ignorance of the subject. We did not know quite how ignorant till a few days since. We estimated the amount made at Pomeroy at about 2,000,000 of bushels, and supposed there was comparatively little made on the Kanawha; but the quantity actually made turned out to be nearly double what we supposed. The amount made on the Upper Ohio was:

	Bushels.
At Pomeroy.....	3,000,000
At Kanawha.....	2,000,000
Total.....	5,000,000

We insert here the remarks made in the annual report of the Chamber of Commerce:

"The increase in the trade in this article the past year has been very large, the receipts exceeding those of the previous year by 71,000 barrels, and yet the receipts of that year exceeded those of any year before that. This can only be accounted for on the ground of the superior quality of the salt and the very low prices compared with those of other salt, as prices have been much lower since last March than for many years previously. The demand from the country west of the Mississippi has been unusually large. The good policy of keeping prices low has been fully vindicated, for the greater portion of the shipments were made since prices were put down in April. A portion of the receipts were Syracuse salt, but only a small portion, as the demand for and consumption of it in this valley is light."

Tobacco.—This is now the greatest tobacco market in the West and, perhaps, in the United States. To show its rise and amount we insert the whole of the following table, taken from the report of the Chamber of Commerce:

"The following were the imports and exports of all kinds of tobacco the last twenty-two years, each year ending August 31:

Years.	Imports.			Exports.		
	Hhds.	Bales.	Boxes and Kegs.	Hhds.	Bales.	Boxes and Kegs.
1846.....	5,078	655	6,918	1,473	3,501	273
1847.....	6,210	822	9,241	9,718	6,011	273
1848.....	4,051	1,223	14,815	9,352	3,212	123
1849.....	3,471	1,311	12,463	7,497	3,397	126
1850.....	2,213	887	17,772	6,904	4,447	77
1851.....	3,701	1,697	19,945	18,315	2,856	106
1852.....	11,460	1,996	23,660	24,761	10,821	629
1853.....	7,881	2,478	48,201	31,867	6,902	1,341
1854.....	8,744	3,118	30,235	30,741	9,353	3,370
1855.....	5,209	2,312	24,902	24,977	4,968	3,307
1856.....	5,702	2,129	33,924	27,745	5,005	3,075
1857.....	4,837	2,063	40,994	34,294	4,054	5,821
1858.....	4,476	4,603	33,745	32,979	4,588	5,704
1859.....	5,324	6,871	56,330	45,030	4,493	5,594
1860.....	6,234	7,231	49,532	49,882	4,074	49,882
1861.....	34,144	7,001	35,455	43,141	14,232	3,971
1862.....	31,944	13,147	37,813	75,968	27,955	7,928
1863.....	33,261	6,981	31,683	65,457	29,736	6,492
1864.....	33,769	14,669	50,063	82,081	43,277	22,263
1865.....	34,359	7,447	22,807	45,955	51,869	12,971
1866.....	43,943	7,754	39,096	51,292	40,665	10,776
1867.....	54,350	424	37,796	57,049	13,493	45,547
1868.....	2,892	3,636	24,607	37,502	9,068	36,230

It will be seen that the tobacco trade has doubled in the last ten years, and in the last twenty years has increased twentyfold. Here, the reader must remember, that in fact last year's trade (1867-8) was the dullest and poorest we ever had, and in many things the trade of the city has largely increased.

REPORT ON SOUTHERN RAILROAD.

At a meeting of the Board of Trade, of Cincinnati, held at Pike's Music Hall, on the 31st day of March, 1869, the Hon. Josiah Kirby, from Committee on Southern Railroad, presented the following report, which was unanimously adopted:

Your committee beg leave to submit that they have had under consideration the subject of aiding in the construction of a railroad through the States of Kentucky and Tennessee, to connect at Knoxville, or some other desirable point, with the Southern system of roads, and believe that the importance of such a connection can not be over-estimated, nor too earnestly pressed upon the people of our State.

A glance at the map of Kentucky and Tennessee presents the singular fact that there is now a territory of one hundred miles in width, and extending from Lynchburg, Virginia, to Nashville, Tennessee, a distance of several hundreds of miles, across which the locomotive has never yet been driven, and which serves as a barrier to separate Ohio and Kentucky from their Southern sister States. Your committee are deeply impressed with the importance of breaking through these obstructions by railroad improvements, and binding the two sections together with national and commercial ties. We believe the future prosperity of Ohio will depend more upon her manufactures than any other branch of industry, and, therefore, all possible efforts should be made to extend and improve the means of transporting our surplus products, not only East, West and North, but South, and to markets even beyond our national boundaries.

A comparatively short period has elapsed since the manufacturers of New England began to measure industry and skill with the manufacturers of Great Britain, who had been strengthened, fostered and protected by the British Government for more than five centuries: and as a reward of their efforts, New England, and the great States of New York, Pennsylvania and Ohio, to say nothing of other States, now produce annually over twelve hundred millions of manufactures, thus creating an internal commerce in the exchanges of produce and manufacture, the dimensions of which can hardly be estimated, and the direction and control of which should be watched with the deepest interest by the people of Ohio and the States south of the Ohio River. While Ohio may long continue to be an agricultural State, it would be unreasonable to suppose that she can retain her present population and her standing as the third or even the fourth State in the Union, unless the people turn their especial attention to, and give all possible encouragement to, this class of industry by the modifications of the burdens upon manufacturing capital, and the removal of all constitutional barriers that stand in the way and prevent our great manufacturing districts from lending their credit and capital for the extension of railroads and other improvements which are absolutely necessary for the transportation of our surplus material and manufactures to new and improving markets. Enough has already been said by our statesmen and political economists to convince the intelligent mind that the dormant resources which await our development in the manufacture of almost every necessity, are equal, if not superior, to any other State in the Union, and we have only to lay hold of the ore, mineral and timber with which our State abounds, work them into useful shape, and open up the roads to markets that await them in the South and West, to insure the most unbounded prosperity of our people. If anything is wanted to satisfy the timid capitalist and the fearful old fogey, of the

certain success of our manufactures, there could be nothing more convincing than the progress already attained. In spite of the most discouraging laws of our State against the manufacturing interest, and that selfish policy which has prevented us for the last eighteen years from spending our own money for the construction of railroads and other improvements, our progress has been almost unprecedented. It seems but yesterday since we depended upon the Eastern and foreign manufacturers for all textile fabrics, cordage and leather manufactures, drugs, medicines, chemicals, iron, steel and the finer manufactures of machinery, tools, cutlery, books and clothing of all kinds; but to-day we are able to ship many of this class of manufactures to profitable markets in the Eastern, and defy competition in the Western and Southwestern States, and add to this list agricultural implements, wagons and carriages, boots and shoes, earthenware, hats and caps, leather, looking-glass, frames and moldings, machinery of all kinds, oils, paper, safes, manufactured tobacco, white lead, woolen goods, cooperage, bungs, stoves, furniture, scales of every variety, brass work, building hardware, spirituous and malt liquors, and almost endless variety of miscellaneous productions.

Almost in spite of ourselves, the enterprise and capital of other States have laid down and put in operation in our State a system of railroads at once extensive and important to the development of our resources, the benefits of which can be most clearly realized by the absurd supposition that we could have maintained any prosperity without them.

The general tendency, however, of the main lines of this system of roads is west and south-west, and running north of the great manufacturing and commercial city of Cincinnati, to strike the Ohio River at points west of us, thus compelling south-bound freights from every portion of Ohio to take a widely, circuitous and necessarily expensive route, instead of a direct course through Cincinnati, and the States of Kentucky and Tennessee, and in its course cross and connect with the Southern system of roads for distribution through the entire South, and to bring to us in return turpentine, rice, sugar, cotton, hemp, fruits, and other needed products of that section. But while we acknowledge the vast importance of these roads, their general course make us but little more than the common highway over which the manufactures and products of other States are shipped to profitable markets.

It is a fact well known that a large portion of the lumber used in the East, in the manufacture of furniture, &c, is now carried from the West, through and across our State, by the four great trunk roads which terminate at New York, Philadelphia and Baltimore, manufactured and shipped coastwise to supply the great States of the South, with the very articles that a direct communication with them would enable us to supply at greatly reduced prices.

Thirty-seven years have elapsed since the first proposition was made to connect the city of Charleston, South Carolina, with Cincinnati, by a grand trunk road, but it has been left for the present generation to accomplish. What seemed to many to be a folly, thirty-seven years ago, has now become a great necessity, and it now becomes the imperative duty of every man of Ohio to lend a helping hand. All that is wanted now to insure the completion of this connection is the right guaranteed to Cincinnati in her corporate capacity, by constitutional amendment, to appropriate a part of the needed capital, and to this point your committee pro-

pose to work until all obstacles shall be removed; to which end we invite the especial attention of this Board in the work of preparing the minds of the citizens of the State for the adoption of the amendment to the State Constitution soon to be submitted, as we trust, by joint resolution of the General Assembly for their adoption.

At this point we shall doubtless be met by that same old class of doubters, who have been ever present in all ages of the world, to hold back and discourage every movement in the progress of civilization. The same spirit that tried to dissuade Noah from building the Ark, hung around Clinton and Clay, and their illustrious compeers in internal improvements, to prophesy disaster and failure; the same spirit that in 1851 alarmed the people of Ohio at the enormity of the public debt, prophesied ruin, bankruptcy, and repudiation, and which had the effect of placing in the Constitution of our State an absolute prohibition against any county, or municipal corporation, giving or lending their credit for railroad improvements, however important they might be for the public good, now stands ready to tell us that the people can not be trusted with the power to tax themselves, and to reiterate the often refuted fallacy that all works of public improvement, plank roads, turnpikes, canals, railroad and telegraph lines, lie within the legitimate province of individual enterprise.

That same spirit that eighteen years ago pointed to the State of Pennsylvania as an example of the folly of internal improvement, and mourned over her thirty millions of public debt, berated her canals, railroad and river improvements, is not yet satisfied with the living truth of the wisdom of her statesmen in the construction of her public works, but

stands ready to repeat the foolish declaration that whatever amount we have invested, or may hereafter invest, for railroads, will be lost. But not so. They might as well tell us that the first stroke of the hammer is lost, because the key is not driven home at a single blow; they had as well tell us that Franklin's efforts in training the lightning were lost because the ocean was not spanned and the world girded with the telegraph wires in a single day. We believe that at whatever cost they have been secured, all of our turnpikes, canals, railroad and river improvements, have been inestimable gain and necessary steps in our march to wealth and prosperity; therefore;

Resolved, That, in the opinion of this Board, we hold it to be the imperative duty of the General Assembly of Ohio, at its present session, to pass the resolution now pending in their honorable body, and known as Joint Resolution No. 91, in relation to an amendment to the Constitution of Ohio, to enable counties, townships and municipal corporations to loan their credit to a limited extent for the construction of railroads, and to submit the same to the people of the State for ratification at the earliest possible day.

Resolved, That a copy of this report and resolutions be sent to each member of the General Assembly, with the earnest request of this Board that they may give this subject their most favorable consideration.

JOSIAH KIRBY,
CLEMENS OLHABER,
CHARLES RULE,
A. P. C. BONTE,
ROBERT MITCHELL.

Erie vs. C. H. and D.

It was known a few days since that there was some *hitch* in the arrangements that were to place the C. H. and D. R. R. in the hands of the Erie Company, on the 1st of April, but just what or where this *hitch* was no one outside the ring seemed to know. The whole matter, however, was to be fixed up in time, (so we were informed) and the grand combination would go into effect upon "All fools' day," if not exactly according to the contract, at any rate, so nearly thereto as to be satisfactory to the *high* contracting parties, and to serve the public wants equally well.

A few days before the time for the completion of this negotiation, the daily press of this city announced that the Engineer in Chief of the Erie Company was in our midst, armed with authority to make surveys, &c., for a new line from Dayton to the Marietta Junction, and to prepare the work as rapidly as possible for the operations of a thousand men. We had hardly concluded the reading of this startling news when the said Engineer entered our office, and we were face to face with this estimable gentleman, who informed us that his mission was no secret, his instructions imperative, and that the announcement of the morning papers was true. From this authority, and knowing the

movements of this gentleman whilst in this city, we had about concluded that the expected lease was abandoned, and that soon the new line would swarm with Erie laborers and that within a year or so (not 90 days) the larger part of the long needed, though unfortunate short line, road would be made; when, in the evening of the last day of March, we were told, by one who knew, that the Erie men were here ready to carry out the terms of the lease with the C. H. and D. Company, and with the means to make the first payment and the witnesses to testify to the tender, and an able lawyer to counsel aright the proceedings.

This we knew meant square work or a huge fight; hence, we watched the movements of the next day with great interest, and, as the scenes were enacted, we saw the base of numerous troubles firmly laid, and the waning star of prominent railroad managers in our city sink beneath a dark horizon.

The question is now open and we may discuss the outgrowth of this situation, which resolves itself into these questions:

1. Must the Erie and Ohio and Mississippi connect?
2. Will the line (C. H. and D.) now connecting them be obtained?
3. Or will a new road be made, and if so, will it come to the Marietta Junction and enter the city *via* the Cincinnati and Baltimore road, or will it make a cut-off from Hamilton

to Lawrenceburg, and thus leave Cincinnati off the thoroughfare?

We have our own conclusions, but as these questions are now before the world with new surroundings, and we have neither space nor time to discuss them fully in this issue, we pass them over for the ripening of events that the next ten days will bring about.

Preservation of Wood for Railroad Purposes.

The "National Patent Wood Preserving Company" of New York owns the "Robbins' Process" for preserving wood from decay. The claims of this process as detailed in the Company's pamphlet are very surprising, and are endorsed by leading scientific men, and by practical workers and dealers in wood throughout this country and Europe. The process consists in subjecting lumber to consecutive baths of carbolic acid vapor, and the vapor of heavy hydro-carbon oils whereby the wood is saturated with creosote, and the pores filled with oils vaporable only at very high temperatures. The result of this treatment of the wood is to render it proof against decay, and impervious to moisture, while the strength of the fibre of the wood is increased one-third or one-half.

The application of this treatment to railway-ties, bridge timber and fences, is calcu-

lated to prove immensely valuable to the railroad interest of the world. In the United States alone over 125,000,000 ties are required to support the iron of our railroads. These ties cost, including the expense of placing them, an average of \$1.00 each, and their average decay is in five years. Therefore, the average loss to railways by decay of sleepers is \$25,000,000 annually! The annual loss by decay of wood used for bridges and fences on railroads far exceeds the figures above given. All this, less the very trifling cost (say from 5 to 10 per cent.) of treatment of the wood, it is claimed will be saved by the adoption of the "Robbins' Process,"

While our forests are fast disappearing before the ax of the emigrant, and the demands of advancing civilization, so that the growing scarcity of wood is alarming our political economists, the discovery of this useful process for preserving wood from decay is peculiarly opportune.

The Erie Railway Company.

ALBANY, March 17.—In the Senate, this morning, the Railroad Committee presented their report on the alleged over-issue of stock by the Hudson River, Erie and Central Railroads. The following statement of the issues of stock is taken from the testimony of H. N. Otis, who is Secretary of the Erie Railroad Company:

Sept. 27, 1862. Amount authorized under the Laws of April 4, 1860, April 2, 1861 and March 28, 1862; and by decree of Court the Erie Railway Company was organized with a capital made by exchange of stock of the New York and Erie Railroad Company, and as per certificate, filed with the Secretary of State November 13, 1862.....	\$11,437,500
June 1, 1864, to Jan. 1, 1865. Amount authorized as per act of Legislature, passed May 4, 1864, extending the time to Jan. 1, 1865, to holders of stock of the New Haven and Erie Railroad to exchange their stock for stock in the Erie Railway Co....	25,000
April 21, 1866. Amount authorized to be issued to Geo. Terrill in lieu of stock of the New York and Erie Railroad, as per special act of Legislature, passed April 11, 1866.....	4,200
From January, 1864, to January, 1866. Amount of fourth mortgage bonds received and cancelled in exchange for common stock of the Erie Railway Company, the exchange being authorized under an act of the Legislature, passed April 2, 1850 subdivision 10 of section 28, and by resolution of the Board September 21, 1863.....	1,559,000
From January, 1864, to January 1866. Amount on fifth mortgage bonds received and cancelled in exchange to date, and stock issued in lieu as above...	866,000

April 13, 1864. Amount of Buffalo branch bonds received in exchange to date, and cancelled as above, and by resolution of the Board, February 26, 1864....	13,600
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April 26, 1864. Amount of Long Dock bonds received to date, in exchange for convertible bonds of the Erie Railroad Company, and said convertible bonds exchanged for stock, as per resolution of the Board, Feb. 26, 1864 and under an act of the Legislature, passed April 2, 1850, subdivision 10 of section 28.....	469,000
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Dec. 19, 1867, to Feb. 28, 1868. Amount issued in the exercise of the powers conferred by act of the Legislature of the State of New York, passed April 3, 1867, and by the Board of Directors of the Erie Railway Company, Dec. 1867, in exchange for stock of the Buffalo, Bradford and Pittsburg Railroad surrendered and transferred to this Company.....	1,891,000
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May 25, 1864. Amount authorized as per act of the Legislature, passed May 4, 1864, and as per resolution of the Board of Directors, May 25, 1864, part of which was sold in that year and part hypothecated.....	5,000,000
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March 8, 1865. Amount issued in conversion of convertible bonds issued as per resolution of the Board of Directors held Mar. 8, 1865, and under an act passed by the Legislature, April 2, 1850, subdivision 10, section 28.....	3,000,000
--	-----------

Feb. 19, 1868. Amount issued in conversion of convertible bonds issued under a resolution of the Board of Directors, passed Feb. 19, 1868, and under a statute of the State of New York.....	5,000,000
--	-----------

March 7, 1868. Amount issued in conversion of convertible bonds issued under a resolution of the Board of Directors, passed Feb. 19, 1868, and under a statute of the State of N. Y.....	5,000,000
--	-----------

Total.....	\$34,265,300
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Aug. 3, 1868. Amount issued in exercise of the powers conferred by the act of the Legislature of the State of New York, passed April 3, 1867, and per resolution of the Board of Directors of the Erie Railway Company, of Feb. 19, 1868, in exchange for stock of the Newburg and New York Railway Co.....	500,000
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Aug. 7, 1868. Amount issued in conversion of convertible bonds issued under a resolution of the Board of Directors, passed Feb. 19, 1868, and under a statute of the State of New York.....	3,000,000
---	-----------

Total.....	\$37,765,300
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Oct. 16, 1868. Amount issued in conversion of convertible bonds as per resolution of the Board of Directors, passed Feb. 19, 1868, and issued under the statute of the State New York.....	5,000,000
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Oct. 23, 1868. Amount issued in conversion of convertible bonds as per resolution of the Board of Directors, passed Feb. 19, 1868, and issued under the statute of the State of New York.....	5,000,000
Oct. 24, 1868. Amount issued in conversion of convertible bonds as per resolution of the Board of Directors, passed Feb. 19, 1868, issued under the statute of the the State of New York.....	10,000,000

Total [common stock].....	\$57,766,300
[Add preferred stock.....	\$8,536,910

Total common and preferred.....\$66,303,210

What this total would be swollen to, if funded and floating indebtedness were added to common and preferred capital shares, the extract printed, of the committee's report, does not show.

The capital stock of the Pennsylvania Railroad Company at date, Dec. 31, 1868 was...\$27,040,762 50
Proposed issue to shareholders registered April 30, 1869, (136,000 shares)..... 6,800,000 00

Total after proposed increase.....\$33,840,762 50

The Pennsylvania Railroad Company exhibits larger income and very much larger profits than the Erie Railway Company.

Below, is the text of the bill pending in the Legislature of New York to authorize the Erie Railway Company to amend their articles of association, in view of the recent leases and extensions of the road in furtherance of the "through line" to Cincinnati and Chicago:

Whereas it is for the interest of the State that every facility should be afforded for the economical management of the railroads of the State to enable them to compete with rival routes terminating in cities in other States; and,

Whereas, the Erie Railway is, by lease or purchase, the owner of connecting roads and branches, which, if managed and run under the name of one company, would lessen the expense and inconvenience of such management and enable them better to compete with such rival routes, the people of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. The Erie Railway Company, in addition to the line of road covered by its original articles of association, having by lease and purchase become possessed of the following named property and roads, to wit: The property of the Long Dock Company, the Paterson and Hudson River Railroad, the Paterson and Ramapo Railroad, the Paterson and Newark Railroad, and the Northern Railroad, in the State of New Jersey; the New York and Newburg Railroad, the Buffalo, New York and Erie Railroad, the Rochester and Genesee Valley Railroad, and the Chemung Railroad, in the State of New York; the Hawley Branch Railroad, the Jefferson Railroad, the Buffalo, Bradford and Pittsburg Railroad, in the State of Pennsylvania, the Atlantic and Great Western Railroad, extending from Salamanca, in the State of New York, through the States of Pennsylvania and Ohio, to Cleveland and Dayton, in the last named State, the Cincinnati, Hamilton and Dayton Road, the Dayton and Michigan Railroad, in the State of Ohio, and a contemplated line of railroad between West Salem and Toledo, also in the State of Ohio,

and thence to Chicago, in the State of Illinois; and it being necessary to operate all the said roads successfully as one line, that the said Erie Railroad Company should have additional and enlarged powers for that purpose, the said Erie Railroad Company is hereby authorized to make and file new articles of association to cover the entire railway and its branches, and leased lines, extending from New York city to Cincinnati and Chicago, such articles to be executed and subscribed by the President and majority of the Directors of said company, and when so executed and filed in the office of the Secretary of State they shall become obligatory and binding upon the said Erie Railway Company, its successors and assigns.

[The inventory of roads, it will be seen, does not include the Ohio and Mississippi Railroad, nor is any connection with St Louis referred to.—U. S. Reg.]

Jackson, Lansing and Saginaw R. R.

ANNUAL REPORT OF THE DIRECTORS OF THE JACKSON, LANSING AND SAGINAW R. R.

To the Stockholders of the Jackson, Lansing & Saginaw Railroad Company:

The Executive Committee herewith submit the report of Mr. Turner, Treasurer, exhibiting the financial receipts and disbursements for the year 1868, both of traffic and construction of the road.

The gross earnings have been \$391,849.30; leaving a balance to credit of income account, up to the 31st of December, 1868, after paying operating expenses, interest, taxes, etc., of \$116,392.79, of which \$59,800 will be required for payment of interest, January 1st, 1869. The balance has been appropriated to construction, and to meet maturing floating obligations of the company.

The amount charged to construction for the year is \$460,931.96; making the total of that amount on the 31st of December \$2,609,249.72; also, on exhibit of the floating debt of the company, amounting at the beginning of the year to \$102,361.43.

The funded debt consists of \$1,495,000 first mortgage bonds, and \$400,000 second; leaving \$100,000 authorized, not yet issued, and it is hoped no further issue may be necessary, together with \$40,834.57 mortgages for depot grounds and docks at Saginaw City.

There are also unadjusted liabilities for docks and freight houses at Wenona, construction contracts unfinished, etc., amounting in the aggregate, to \$50,000 or \$55,000.

The capital stock is \$548,605, to which should be added \$84,000 for right of way, and preparing the road-bed for iron, from Saginaw City to Wenona, as per contract not yet fully adjusted; making a total of \$633,605 stock.

By the building of the road from Owosso to Wenona, the company has earned 192,000 acres of land, which amount has been duly certified to the company, quite carefully examined, and will be speedily appraised and offered for sale; the proceeds being pledged for the redemption of first mortgage bonds.

We have no doubt the business of the current year will be considerably more than that of the past, and feel safe in estimating its aggregate at not less than \$450,000, which will not be sufficient to make such additions to equipment, in the way of rolling stock, addi-

tional sidings, station houses, etc., as will undoubtedly be necessary together with operating expenses, interest, and other incidental expenses, and fully cancel the floating debt, a portion of which will require to be carried over into the next year.

The rolling stock of the company, which now consists of ten locomotives; six large and four small passenger coaches; two large and two small baggage cars; two mixed train baggage cars; fifty box and one hundred platform cars, is quite adequate for our present business, except in passenger coaches, which two more will be needed; and with a of natural increase in business, another engine and a few more freight cars may be necessary.

As the past year is the first of its operations over the whole of the line from Jackson to Wenona, 116 miles, our earnings have been heretofore entirely conjectural. We can now calculate with more confidence, and compare earnings with corresponding periods of the past.

It is proper here to allude to other similar enterprises now under contract, the completion of which, it is confidently predicted, will greatly add to our business. First—from Jackson to Fort Wayne, Indiana, 95 miles, which will afford a southern outlet for a large amount of the great staple of the Saginaw Valley—lumber. Nearly half of this line is expected to be opened for traffic the present season. Second—the Ionia and Lansing Railroad, leading from Lansing, north-west to Pentwater, 127 miles, of which the division from Lansing to Ionia is under contract, and is also expected to be completed the present season, and will be a most important feeder to our road.

It is also believed the time is approaching, and—if needed legislation asked for is granted—near at hand when we can present the extension of our own road, north, via the Straits of Mackinaw, to Lake Superior, to capitalists, in so favorable a light as will insure its speedy completion; developing a section of this State, abounding in products of the forest, and of soil unsurpassed in fertility for agriculture; by such extension, opening to settlement a vast territory, now almost an entire wilderness, for lack of any mode of access, thereby largely enhancing the value of the company's grant of the finest lands in the world, and developing a local business amply remunerative to the road.

As soon as our floating debt is paid, it will be the policy of the company to set apart a portion of the surplus earnings to a sinking fund; which, together with proceeds of lands sold, may be invested in the bonds of the company, so reducing its bonded debt, and annual interest account.

By order of the Executive Committee.

H. A. HAYDEN, President.

The receipts of the Western Union Railroad Company, for the week ending March 21:

	1869.	1868.	Increase.	Decrease.
Freight.....	\$7,173 58	\$7,127 63	\$45 95	
Passengers.....	3,406 50	3,651 82		\$245 32
Express & Tel.	350 00	350 00		
Mail.....	375 00	375 00		
Totals.....	\$11,305 08	\$11,504 45	\$45 95	\$245 32

Receipts from January 1, to March 21:

1869.....	123,727 38
1868.....	109,618 62
Increase.....	\$14,108 76

Illinois Central Railroad.

ANNUAL REPORT OF THE DIRECTORS FOR THE YEAR ENDING DECEMBER 31, 1868.

PRESIDENT'S REPORT.

The gross earnings of this railway for the year 1868 amount to \$7,817,629.24, the operation expenses to \$4,590,681.91, the State taxes to \$441,597.57, and rent of leased line in Iowa to \$370,365.18, leaving net \$2,414,984.58, against \$2,580,567.72 in 1867. The percentage of expenses to earnings, including State taxes, is 64 37 100, against 65 6 10 in 1867. These figures include earnings over leased line in Iowa, which amount to \$1,019,698.72, operation expenses \$515,895.60, State taxes \$13,200.09, and rent \$370,365.18, leaving a net profit of \$126,076.78 after making liberal expenditures in improvements. It is easy to perceive that we may look for considerable increase in the profits of working this line. It is in no wise a charge upon the road in Illinois; fixing no obligations upon the company but that of paying a share of the gross income. The arrangement has been of great advantage to us in operating that part of our road in Illinois north of Mendota, enabling us to bring more of it into use than formerly in the transaction of our business. In this respect we derive already the most signal benefit from the lease in Iowa. In all its relations with the company's interests, this transaction has proved fortunate and successful.

The Southern States not taking their usual supplies of food from the North, our traffic in that direction has decreased. This loss is, I trust, temporary, and will be restored to us at an early day. As the South is again engaged largely in the production of cotton and sugar, we may expect to supply them with breadstuffs and provisions, when our business in that direction will be re-established.

The tonnage hauled in 1868 was 1,439,675 tons, against 1,300,835 tons in 1867 the average distance each ton was hauled being 263 miles in 1868, against 131 miles in 1867.

The roadway and other property of the company have received all necessary repairs. The expenditures for the maintenance of way include the cost of 7,348 tons of new iron, which with the cost of other materials and labor, amount to \$1,260,143.04—the length of the track relaid with new iron being 75 miles, and with repaired and old iron 105 miles. This amount includes also the cost of repairs of bridges, \$128,271.60, which covers ordinary repairs, and a proportion of the cost of six spans (iron) of the bridge across the Illinois River at LaSalle, which have been substituted for six spans of the wooden bridge, and also the cost of re-erecting two spans of the iron bridge across Rock River at Dixon, destroyed by freshet in the spring of last year. The motive power and rolling stock of the company have received special attention, and \$1,223,812.44 were expended in their maintenance. We built about 208 miles of new fence, of excellent character, the cost of which (\$106,104.55) is included in operation expenses.

The amount of permanent expenditures was \$572,014.70, of which \$393,187.29 was on account of construction, including for new iron bridges, \$55,621.73; ballasting 23 miles of track, \$19,008.67; new station buildings and workshops, \$63,591.09; water works, \$36,862.88; 6½ miles new sidings, \$68,775.79; lake shore protection, filling Chicago station grounds, extending the grounds at Chicago Car Works, and for new wharves and basins, \$63,960.78; and for making the tunnel and

approaches to Dunleith bridge \$77,461 92. Of these expenditures, \$41,567.07 was for new sidings, station buildings, ballasting etc., on the leased line. The equipment has been increased by the addition of three new first-class locomotives, built at our shops, at a cost of \$40,289 42; sleeping cars, \$10,050; one hundred new stock and three new grain cars, costing \$90,342.35, with other slight expenditures on shop machinery and tools.

The bridge across the Mississippi, between Dunleith and Dubuque, was completed and opened for traffic on the 1st of January last. Our trains are now passing over it, and we find it a great benefit in operating the line.

During the past year the amount paid for dividends, including Government tax, was two millions four hundred and sixty one thousand five hundred and sixty-eight dollars and forty two cents, being at the rate of ten per cent. on the capital stock; in addition to which, stock was distributed to the stockholders in August last, at the rate of eight per cent. on the share capital, in accordance with a resolution passed at the last annual meeting of shareholders. The amount paid for interest on funded debt and sterling exchange was seven hundred and fifty-five thousand seven hundred and sixteen dollars and ninety-two cents; and after paying State taxes, rent of leased line, and all other claims, upon the operation of the year, we had a balance on the first day of January, of net cash assets, amounting to \$2,012,927.83, out of which a cash dividend of five per cent. was paid during the present month. The stock of working supplies, inventoried at cost, amounts to \$844,139 29. The funded debt was reduced \$1,167,000, and amounted, on the 1st of January, to \$9,377,500.

In the Land Department the collections amount to \$3,200,289.21, on account of old and new sales, of which \$2,070,431.31 is applicable to the cancellation of construction bonds, \$558,140.61 to Free Land Fund, and \$407,925 56 to Interest Fund. The expenses for the year were \$143,707 39. There were surrendered to the Trustees during the year \$1,832,500 of construction bonds, at a cost of \$2,070,725, against the collections on that account. The amount of bonds now in their hands in advance of deeds issued, is \$1,423,819, of which \$3,173,000 is in advance of collections. The sales were 207,008 37-100 acres to 3,776 purchasers, for \$2,228,325 90; averaging \$10.76 per acre. The total number of deeds issued up to the close of the year covered 1,124,446 86-100 acres of the original grant. The amount owing to the company for lands is \$6,128,087.59. On most of the obligations for lands one or more payments have been made. This facilitates future collections, and I expect the receipts of the department during the present will be equal to those of the preceding year. There still remain unsold 526,690 46-100 acres of land, to which may be added about 96,504 acres (old sales) subject to cancellation. Of the lands sold during the past year, 115,496 acres were located on the Chicago Branch, between Champaign and Kankakee.

The net receipts from Railway and Land Department during 1868 amounted to \$5,451,775.75. For further details of the year's operation, you are referred to the various statements annexed.

The annual meeting of the shareholders will be held in Chicago on Wednesday the 26th day of May next. The term of service of three Directors will expire at that date.

JOHN M. DOUGLAS,
President.

GENERAL STATEMENTS.

The General Balance Sheet shows the capital stock to be \$25,277,270; canceled bonds scrip. \$19 610; funded debt, \$9,377,500; bonds delivered Land Department, less amount in the Trustees hands \$9,434,500; making the road and its lands represent a capital of \$44,108,880.

The total amount of permanent expenditures, from the commencement of the road is \$31,900,487.34.

SUPERINTENDENTS' REPORT.

The following is an abstract of the report of the General Superintendent, Marvin Hughitt.

The earnings during the year were \$7,892,629.24, from the following sources:

Statement of Earnings.

Freight.....	\$4,887,517.69
Passengers.....	1,868,747 74
Extra Baggage.....	2,804 57
Mails.....	84,800.00
Express.....	219,811.24
Rent of Property.....	113,942 14
Dockage.....	15,057.81
Rent of Cars.....	27,162 78
	\$7,219,843.97
Earnings over other roads.....	672,785.27
	\$7,892,629.24
Total Earnings.....	7,344,117 62
Earnings in 1867.....	
Increase in 1868.....	\$548,511.62

Showing an increase of \$548,511 61, or 7 4-10 per cent. over gross earnings of 1867.

Operation Expenses.

Salaries.....	\$149,779 67
General expenses.....	187,436 32
Legal expenses.....	17,316 25
Claims and damages.....	114,662.25
Station expenses.....	616,198.82
Train expenses.....	859,245.55
Maintenance of machinery.....	1,223,812.49
Maintenance of way.....	1,264,443 04
Repairs of fencing.....	106,104 54
Operating St. Charles Air-line.....	7,169 54
Insurance.....	48,332 74
Loss and damage by fire.....	180 70
Exchange.....	
	\$4,590,681.91
Total.....	4,236,416 37
Total operation expenses in 1867.....	
Increase in 1868.....	\$354,265.54

Showing an increase of \$354,265 54 over the expenses of 1867, and the operation expenses of 862 miles of road. The proportion of operation expenses, exclusive of charter tax, to earnings, is 58 16-100 per cent.

The total mileage of trains during the year was 4,496,434; gross earnings per mile run, \$1.75 52-100; operation expenses per mile run, \$1.02 9-100; gross earnings per mile of road, \$9,156 18 24-100; operation expenses per mile of road, \$5,325.67 70-100.

In the machinery department, thorough repairs were made to locomotives and cars during the year, and the efficient condition of the equipment has been maintained in all respects. The expenditures of this department show an increase over 1867.

The following comparative statement shows the mileage and expenses of locomotives for 1867 and 1868:

	1868.	1867.
Mileage of locomotives.....	4,593,446	3,765,216
Cost of repairing loco motives per mile run.....	12 72-100c.	14 45-100c.
Cost of wages.....	6 11-100c.	6 18-100c.
Cost of fuel.....	6 88 100c.	7 13-100c.
Cost of oil, waste and tallow.....	72-100c.	71-100c.
Cost of cleaning.....	1 11-100c.	1 15-100c.
Total.....	27 57-100c.	29 62-100c.

During the year 3 new first-class engines were built at the company's works, making the number owned by them, at the close of the year, 170, which were employed as follows: 30 on passenger trains, 99 on freight, 18 switching, 1 on construction train, 1 running pay car, 19 undergoing repairs, 1 just completed, and 1 extra.

Fifty-four engines have received general repairs, 54 thorough repairs, of which 15 have been rebuilt, and 12 have been altered to burn coal, leaving but eight wood burners on the road.

The rolling stock has been increased by the addition of 100 new stock, 3 grain, and 2 sleeping cars.

The repairs comprise the rebuilding of 7 passenger cars, thorough repairs to 13, general repairs to 36, repainting 31, and revarnishing 66; 12 baggage and mail cars have been thoroughly repaired, 12 have received general repairs 23 repainted, and 24 revarnished. Four thousand new wheels were used in repairs of cars during the year; 131 freight cars were rebuilt, 232 thoroughly repaired, 2,927, had general repairs, and 1,216 repainted. Sixty new roofs were put on, 182 cars received new brakes, and 125 flat cars have been provided with boxes for the transportation of coal.

The cost of repairing passenger cars has been 3 10-100c, and of freight cars 99-100c per mile run.

Very full and complete tables accompany the report, showing the performance of locomotives and the expenditures therefor in detail, elaborate freight statistics and accounts of passenger and freight earnings.

Ways to the Pacific.

[From the New York Mercantile Journal.]

There are already no less than ten railroads projected as continuous lines between the Atlantic and Pacific seaboard, and publicly announced, to wit:

1. The Great Union Pacific Railroad starting from Omaha and running almost due west toward a junction with the Central Pacific Railroad, after traversing Nebraska, Dakota, Utah and Nevada.

2. The Central Pacific Railroad starting from Omaha in a northeasterly direction through California and Nevada to join the Union Pacific. This road had the western end of the grand line to construct, and owns about 550 of the 1,500 miles of track already completed.

3. The Eastern Division of the Union Pacific Road running westward from Wyandotte and Leavenworth. Over 450 miles of this line have already been constructed, the charter direction requiring it to join the Union Pacific at a point not determined on the 100th meridian. The company are seeking to have the terms of their charter altered so as to permit them to terminate their work at Denver, beyond which point they would transfer all rights and privileges to another company, viz:

4. The Denver Pacific Railway and Telegraph Company. The proposition of this party is to run a branch from Cheyenne on the Union Pacific line, which the latter was originally to have completed.

5. The National Pacific Railroad Company proposes a line from Albuquerque to San Diego on the 35th parallel, and conflict somewhat with the views and wishes of the Eastern Branch of the Union Road.

6. The Atchison and Pike's Peak Company were to connect Atchison, Kansas, with the Eastern Division of the Union Road, but the latter having changed its route, they ask for an extension of charter.

7. The Kansas Central Pacific Railroad Company wants a line from Irving, in Kansas, to Santa Fe, New Mexico.

8. The Central Branch, Union Pacific Road, starts from St. Joseph Missouri, to connect with the Central Pacific at Fort Kearney.

The two last mentioned roads have the backing and support of the Hannibal and St. Joseph Company.

9. The Santa Fe Road is one of the projects of the Eastern Division Union Pacific Company, and will pass along the Rio Grand to the Southern Pacific Road, to the great benefit of Arizona and New Mexico, with prospective branches running into California.

10. The United States and Mexico Railroad is a noble project, the design being to start at Lawrence, Kansas, and run south-westerly to the boundary lines of the States and Mexico, and thence strike Guaymas on the Gulf of California. This is the grand outlet of the future, and all the arguments favoring the construction of other lines might be concentrated upon it as a measure of incalculable international importance. The development of the great mining regions on each side of the line would be one of its first effects, and the settlement of the vast, fertile and beautiful interior its early consequence.

—The Missouri River, Fort Scott and Galveston Railroad Company, have purchased forty-two acres of ground in West Kansas City, for the sum of \$36,000.

TO CONTRACTORS.

Pittsburgh & Connellsville R. R.

PROPOSALS WILL BE RECEIVED up to Saturday, May 11, inclusive, for the GRADUATION, MASONRY and BALLASTING of the remaining 47 sections of this road, situated at intervals upon the 90 miles between Connellsville and Cumberland.

Specifications will be ready for distribution at the Pittsburgh and Cumberland offices on Friday, the 9th of April, and all information necessary to the proper examination of the work will be afforded by the Engineers upon the line.

By order of the President and Directors.

BENJ. H. LATROBE, Chief Engineer,

OFFICE PITTSBURGH & CONNELLSVILLE R. R. CO.,
Pittsburgh, March 18th, 1869.

25-3-6L

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We would respectfully call the attention of Superintendents, General Ticket and Freight Agents to the class of work we are now producing.

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STRETCHERS,

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CONSECUTIVELY NUMBERED

COUPON AND LOCAL TICKETS,

Bills Lading,

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COUPON TICKET CASE.

BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF	PRICES.	SIZE NO. OF	PRICES
NO. FORMS.		NO. FORMS.	
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms and also with working plans, if desired.

BACON & EVERINGHAM,
Milwaukee, Wis

All orders addressed to us will receive prompt attention.

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W. H. PREE, Pres't, C. & I. C. Railway, Columbus, O.
M. RIDENOUR, Pres't, C. & I. J. R. R. College Cor., Ind.
J. M. LUNT, Sup't, C. & I. C. R. R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C. H. & D. R. R., Cincinnati.
J. H. WELLER, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton
C. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., Indiana at
Aug. 2, 1895.]

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It is an independent LIFT AND FORCE PUMP, without piston, plunger, valve, or movable parts of any kind.

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a locomotive can raise water, with its own steam, to fill its tender in the same time as from an ordinary tank; thus dispensing with tanks, pumping machinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops, Shops, Elevators, &c.,

AND BY FAR,

THE BEST BILGE PUMP,

for Steam Vessels, in use

For Circulars and other information, address,

STEAM SYPHON COMPANY,
48 Day Street,
NEW YORK.

VERY CHOICE

Oil Lands

IN

Kentucky & Tennessee,

FOR SALE BY

T. WRIGHTSON,

167 Walnut Street,

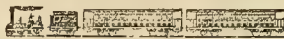
CINCINNATI

THROUGH —FROM— CINCINNATI TO NEW YORK

WITHOUT CHANGE OF
COACHES!

—VIA—

Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W. Railway, on Saturday Morning, by the 6:00 a.m. Lightning Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next day, Sunday

2 Through Lightning Express Trains for New York, Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6,15am.....	7,10pm
" Dayton.....	8,35 ".....	9,30 "
Arrive West Salem.....	1,50pm.....	4,53am
" Leavittsburg.....	4,55 ".....	7,35 "
" Meadville.....	7,35 ".....	11,10 "
" Susquehanna.....	7,48am.....	11,29pm
" Paterson.....	2,25pm.....	6,03am
" New York.....	3,15 ".....	7,00 "
" Boston.....	6,45am.....	4,45pm

Sleeping Coaches on Night Trains the entire distance between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday night instead of Saturday night. All other Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
At Mansfield with Pitts., Ft. Wayne
and Chicago Railroad.

THIS IS THE ONLY ROUTE TO THE

GIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely new, of the most modern, substantial, and approved description, unequaled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all Trains.

Ample time is allowed, at all hours, for meals.

No effort will be spared by the Company to render a trip over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE CHECKS,

Apply in Cincinnati at New Depot of Cincinnati, Hamilton and Dayton Railway; or at northeast corner of Broadway and Front streets, and at No. 80 Fourth street, nearly opposite Post Office. Also at any of the principal Railroad and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. RUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1895, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a.m. and 18:00 p.m. On Sundays, one Express Train at 8:00 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change of cars to Chicago or Cincinnati, and but two to St. Louis. Passengers front to East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m., Pittsburgh 12 night

9:00 a.m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 8:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN, from the West, leaving Pittsburg at 4:20 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:40 a.m.; Allentown at 6:00 a.m.; Easton at 7:09 a.m. Through cars from Pittsburg to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pittsburg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:52 a.m.; Allentown at 12:22 p.m.; Easton at 1:10 p.m. Through cars from Pittsburg to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing Reading at 10:40 a.m.; Allentown 12:20 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

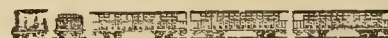
2:10 p.m.—FAST MAIL, from the West, leaving Pittsburg at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 10:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7 00 A. M.	9 10 A. M.
Springfield & St. Joseph Ex.....	12 00 P. M.	4 30 P. M.
St. Louis & Chicago Ex.....	4 55 P. M.	12 15 A. M.

Sleeping Cars by this train for St. Louis and Chicago.

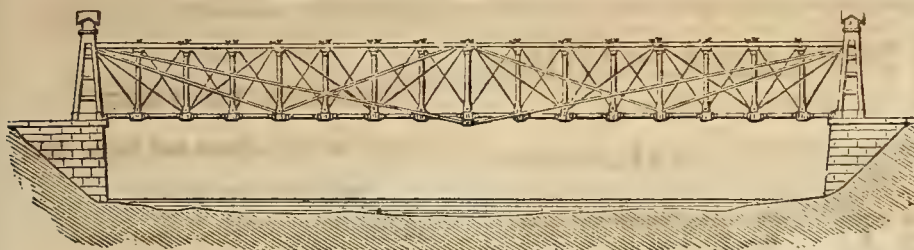
Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5 15 P. M.	5 05 A. M.
Harrison Accommodation.....	10 10 A. M.	2 25 P. M.

Through Tickets can be obtained at the Burnett House, Spencer House and Gibson House Offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent

F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1392.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pairs of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and to accommodate them to the grades, curves, strength of superstructure, and railroad work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and construction of all the details. Our long experience and opportunity of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings, every description of Copper, Sheet Iron and Boiler Work; and every article pertaining to the repair or renewal of locomotive engines.

KNOX & SHAIN,
ENGINEERING & TELEGRAPHIC
INSTRUMENT MAKERS
Philadelphia, Pa.

W. M. F. HEWSON,
STOCK BROKER,

21 WEST THIRD STREET, CINCINNATI.

Buys and sells Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collections.

AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

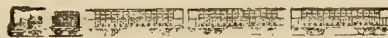
Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
S. E. Cor. Fourth and Main Sts

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent
my 11 Pittsburg, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

WITH

Productive Wells all

around them.

FOR SALE BY

T. WRIGHTSON

167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

—IN—

Railroad, Car and Machine Shop

SUPPLIES,

—AN—

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
350 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS.

FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight. All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.
Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly to tent for the celebrated Wheels, either single or double plate with or without axles.

WHEELS FITTED

Hampered or Rolled Axles, in the best manner; the shortest notice, and on the most reasonable.

PASSENGERS

Purchasing Tickets via

Baltimore & Ohio R.R.

-TO-

BALTIMORE,

PHILADELPHIA,

NEW YORK, and

BOSTON,

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!**

Fare to Washington City same as to Baltimore.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
NO. W. BROWN, General Passenger Agent.

Dec. '67.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 40 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Burnett House Office, corner Vine and Baker streets, and at the respective depots. East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.**JANUARY 5th, 1868.**

Cincinnati to St. Louis Without Change of Cars.

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cincinnati,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine Street; Corner Front and Broadway; and at Depot, Foot Mill Street.

C. E. FOLLET Gen. Passenger Agent,
J. W. CNLOGUE,
General Superintendent.

Best Route to St. Louis and Chicago

INDIANAPOLIS,
CINCINNATI
—AND—
LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,
CAIRO,
CHICAGO,Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha
And all Rail and River Towns and Cities in the West,
North west and South-west.**5 THROUGH TRAINS DAILY,**
(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express.....	7.00 am	10.50 pm
Indianapolis and Cairo Express.....	6.0 am	2.30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express, Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.0 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.0 pm

Through Tickets can be obtained at the Burnett House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & O. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.**MOSELEY'S WROUGHT IRON ARCH****BRIDGES,**

AND

CORRUGATED IRON ROOFS

[ARCHED AND FLAT.]



CORRUGATED SHEETS, OF ALL SIZES, CONSTANTLY ON HAND, PAINTED, AND READY FOR SHIPMENT, WITH INSTRUCTIONS FOR APPLYING THEM.

MOSELEY & CO.
Boston, Mass.**EDWIN J. HORNER,**

Successor to

McDANIEL & HORNER,



Locomotive and Railroad

CAR SPRING MANUFACTURER,

Wilmington, N. Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn

JOHN A. WRIGHT, Sup't.

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works June 9

**THE SCHENECTADY
LOCOMOTIVE WORKS,**

SCHENECTADY, N. Y.,

Continues to receive orders and to furnish with promptness the best and latest improved

**COAL OR WOOD BURNING
LOCOMOTIVE ENGINES**

AND OTHER

Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding their work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.**PASCAL IRON WORKS.**

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas, Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1½ to 24 inches in diameter, and branches for same, &c., Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. P. M. TASKER
BY G. MORRIS.**Philadelphia, Wilmington & Baltimore
RAILROAD!!****FOUR PASSENGER TRAINS DAILY**

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M. Leave Baltimore for North and West, 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore at Washington at 4.15 A. M., and 11.00 P. M. Leave at Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD, }
T. WRIGHTSON. } Editors

CINCINNATI:
THURSDAY, APRIL 8, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street.
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.
One square, single insertion..... \$ 1 00
" " per month..... 3 00
" " six months..... 12 00
" " per annum..... 20 00
" " column, single insertion..... 5 00
" " per month..... 10 00
" " six months..... 40 00
" " per annum..... 80 00
" " page, single insertion..... 15 00
" " per month..... 25 00
" " six months..... 110 00
" " per annum..... 200 00
Cards not exceeding four lines, \$5.00 per annum.
WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	
Columbus Accommodation.....	3:35 P. M.	10:35 A. M.
Morrow Accommodation.....	5:10 P. M.	8:00 A. M.
Lightning Express.....	8:30 P. M.	10:40 P. M.
Night Express.....		7:20 A. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillsboro Accommodation.....	3:45 P. M.	10:15 A. M.
Leveland Accommodation.....	5:30 P. M.	7:50 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.).....	7:00 A. M.	7:00 P. M.
do do.....	7:10 P. M.	7:00 A. M.
Toledo, do do.....	7:10 A. M.	10:45 P. M.
do do.....	7:10 P. M.	7:00 A. M.
Lima, Ft. Wayne & Chicago.....	7:10 A. M.	10:45 P. M.
do do.....	2:30 P. M.	5:10 P. M.
do do.....	7:10 P. M.	7:00 A. M.
Sandusky, Cleveland & Buffalo.....	7:10 A. M.	7:00 P. M.
do do.....	5:45 P. M.	10:25 A. M.
Connersville & Indianapolis.....	7:10 A. M.	10:45 P. M.
do do.....	2:30 P. M.	5:10 P. M.
do do.....	5:00 P. M.	10:45 A. M.
Hamilton, Eaton & Richmond.....	7:10 A. M.	10:45 P. M.
do do.....	5:00 P. M.	10:25 A. M.
Hamilton Accommodation.....		8:05 A. M.
		6:30 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

Connersville, Rushville and Indianapolis Mail.....	7:00 A. M.	10:45 P. M.
St. Louis, Indianapolis & Connersville & Rushville Express.....	2:20 P. M.	5:10 P. M.
Cambridge City and New Castle.....	7:00 A. M.	10:45 A. M.
Cambridge City and New Castle Express.....	5:00 P. M.	10:45 A. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	7:20 P. M.
New York Express.....	8:00 P. M.	10:40 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	6:30 A. M.
Springfield Express.....	3:00 P. M.	4:20 P. M.
St. Louis Express.....	11:00 P. M.	1:10 A. M.
Lawrenceburg Accommodation.....	10:00 A. M.	2:35 P. M.
do do.....	4:30 P. M.	8:30 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	4:20 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:35 A. M.
Harrison Accommodation.....	5:30 P. M.	7:37 A. M.
Chicago Night Express.....	9:50 P. M.	10:32 P. M.

OHIO AND MISSISSIPPI.

St. Louis, Cairo & Louisville (Sundays excepted).....	7:50 A. M.	12:10 A. M.
Louisville Special Train (Sundays excepted).....	4:25 P. M.	11:45 A. M.
Louisville, St. Louis & Cairo Daily Express.....	7:10 P. M.	6:00 A. M.

ATLANTIC AND GREAT WESTERN RAILWAY.

Lightning Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	7:10 P. M.	7:00 A. M.

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

Cincinnati & Mackinaw R. R.

It is now fifteen years since the writer of this article published a pamphlet, at the suggestion of parties interested, on the Cincinnati & Mackinaw Railroad. The initial was the small project of making a railroad from Carlisle Station to Germantown, called the "Twin Creek Railroad," and, beginning with that, it was suggested that a railroad through the western tier of counties in Ohio would, sooner or later, be absolutely necessary. The writer then published the pamphlet, which described and exposed the plan of the Cincinnati & Mackinaw Railroad. This plan was nothing less than a grand central axial line from Mackinaw, the central point of the great lake basin, to Pensacola, in Florida, the longest North and South axial line which can be made—the only one which would pass through the richest and most central portion of the United States, and which would undoubtedly be the greatest and, ultimately, the most profitable line of railroad in the world. We shall not argue the point now, but simply state the initial facts of this great enterprise. Its Northern point will be (for the road will be) in the heart of the magnificent lakes of Central North America, around which is already gathering the largest internal commerce of the earth, and to which, in another generation, nothing in Europe or Asia can compare. Its central point will be Cincinnati, in the center of the Ohio Valley, and its Southern point will be Pensacola, looking out on the Gulf of Mexico, the Caribbean Sea and the bright isles of the tropics. Let the reader now take his map and see where this road lies and what it will do. It will be on nearly a straight line, making a slight angle to the East at Cincinnati. In a straight line the distances will be:

	Miles.
Mackinaw to Cincinnati.....	440
Cincinnati to Tennessee River.....	230
Tennessee River to Pensacola.....	260
Total distance.....	930

Of course this will be elongated considerably by the necessity, in some parts of the way, especially in Kentucky and Tennessee, of following water courses. Between Mackinaw and Cincinnati the line will be nearly straight. On the whole, we think that the arterial line of railroad will not exceed 1,200 miles in length. This road will pass through sixteen degrees of latitude, and will exchange in its course the products of the extreme North and the extreme South, and the central Temperate Zone. Again, it is very remarkable how any one road could strike so many important and central points. Besides Mackinaw, Cincinnati and Pensacola, this road passes through Lansing, the seat of government in Michigan, Lexington Kentucky,

quite probably Knoxville, Tennessee, Montgomery, Alabama, and many other important points. But we need not now go into the general merits of the plan, but will confine ourselves to the immediate work before us, which is the Cincinnati & Mackinaw line proper. The readers of the Record will recollect that several years since the Government gave to the State of Michigan several millions of acres of land; that is, the alternate sections for several miles in breadth, on two great lines of railroad through that State, the Northern part of Michigan being then almost a wilderness and the lands owned by the Government. It was, in fact, a magnificent grant, but, from causes which the intelligent reader will understand, the lands were not then available, and their value depended largely on the making of the roads. The upper part of Michigan was unsettled. But the time has arrived when this grand enterprise must go ahead. No matter who may or may not engage in it, the work will be done. Let us, then, take a look at the present condition of affairs. The roads (in Michigan) originally located by the laws of Michigan accepting the grant were, first, a road by Grand Rapids and Traverse Bay to Mackinaw; and, second, a road from Lansing to Mackinaw. Both were granted large grants of land. It was the latter which makes a part of the Cincinnati and Mackinaw line, and which we must now look into in reference to that. From Lansing to the State line of Ohio there was also a charter, so that in Michigan the whole line was provided for, with the addition of large and valuable grants of land for the road north of Lansing. On a straight line from Mackinaw to Cincinnati the State line will be crossed at or near Amboy. From Amboy south (in Ohio) the line will be made by the Cincinnati & Mackinaw Company. This company commenced its work several years ago, and has actually graded a considerable part of the line. This section of the line goes from Greenville through Van Wert to Amboy, a distance of 140 miles, and the road is very nearly, if not quite, a straight line. From Greenville to Dayton there is already a railroad, which will be used as a part of the general line.

Having taken this general view, we may now state the exact position of affairs now:

1. The company from Lansing northward has been just organized, and with its valuable lands, and new capital is expected to commence work and go ahead.
2. The Cincinnati and Mackinaw line has done a good deal of work, and expects, by its available means, and certain advantages, to attract capital for its completion.
3. The road from Greenville to Dayton is made, and will no doubt be made part of the general plan.
4. The line from Dayton to Cincinnati is

expected to be made over what is called the "Short Line Route." From Dayton to the upper plain of Cincinnati (where any sensible railroad company coming from the North ought to come) is, by survey, only 51 miles, saving 9 miles of distance and half an hour in time, between Cincinnati and Dayton. This is the true route for any road coming from the North. There is some question as to the proper point of entering the city; if the Tunnel could be obtained and completed at a moderate cost, and without embarrassment, it would certainly be preferable; but that is by no means the only entrance from the North, and it is quite possible on consideration of the routes, that another one may be shown which has not heretofore been urged by railroad men, and that is cheaper than the Tunnel. This route is on the Eastern side of Mill Creek, coming in on the route of the canal, and coming into Cincinnati from the Hamilton road. The Short Line Route would pursue the original route to Sharon, and thence by the East Branch of Mill Creek, keeping on the east, hugging the hills east of Cumminsville, and at Brighton coming into the upper plain of Cincinnati, losing scarcely any distance and reaching the center of Cincinnati on the best possible route through the city. The reason why this has not heretofore been taken is, probably, that the railroad managers thought they must reach the river on the lower level; but, this is a great mistake, the lower level can be reached from the upper by a comparatively easy grade, the difference of level is only 50 feet, and nearly a mile of distance can be had to make it. The railroad men generally do not seem to have seen this; but, to our minds it seems perfectly manifest, that a railroad which has its main depot on the upper plain of the city, and near the center of business, would have a great advantage over those that now carry their freight and passengers to its very extremities, and the most incommodious parts of the city.

We have now shown both the general plan and prospects of the Cincinnati and Mackinaw Railroad, and also the detailed parts, in regard to the line from Mackinaw to Cincinnati. It seems evident that the time has come, when this great work will be pushed through, and we hazard nothing in saying that it will be one of the greatest railroad enterprises ever undertaken and one which promises most beneficent results. The North and South will be connected with iron bands, and the products of every line of latitude mingle in a grand contribution to the harmony and prosperity of the Nation.

—The Hannibal and St. Joe Railway, in Missouri, sold \$1,758,607 worth of land last year. The company has 198,000 acres yet to sell, out of 601,329 acres which were given to it.

Erie Movements.

Up to this time we have learned of no settled policy on the part of the Erie Railway Company, to overcome the difficulties of the withdrawal of the lease of the Cincinnati, Hamilton and Dayton road. It is in rumor that arrangements have been concluded, with the Little Miami Company, by which a transshipment of goods will take place at Urbana, and that part of the track of the Sandusky road from Urbana to Springfield used to connect with the Little Miami road, and the Erie business be brought into Cincinnati, at the east end of the city and connection with the Ohio and Mississippi road made through the city via Front street. From all we can learn there is something really in this rumor, but, whether it is concluded or not, or whether it is to be a temporary or permanent arrangement we have not yet ascertained.

Our own conclusions are, that though such a connection of the great broad gauge interests is feasible, it is nevertheless costly and inconvenient, and if made at all will only be temporarily sustained until arrangements can be effected with other more direct lines, or what would be quite as well, if not better a new line could be built.

If the Erie Company possesses the means its daring management has induced people to believe it does, there is no trouble in its soon finding relief from this embarrassment; not perhaps in sixty days, but in a very few months, and in such a way as will secure its control of a line into this city better in every respect than any now entering it.

It is understood that the policy of the Erie is not to build roads but to control those already existing. This may be good policy enough when such control can be had upon terms easier than new lines can be created, otherwise it is not, and as the late block of the Cincinnati, Hamilton and Dayton Company is a case of this kind, the Erie managers will show their grit and wisdom in diverging from their policy, and heeding our suggestions.

RAILROADS IN MICHIGAN.—The following from the Lansing *Republican* adds to the enterprising character of our sister State.

Michigan is leading the West in such improvements, and although the burden falls heavy at present, a few years will bring a rich return in all that pertains to material prosperity.

This new project is one of the best that has yet been proposed in the State, and is the Northern compliment of a splendid line that we have been advocating as the natural and direct one to connect this city with Central Michigan, and that we are pleased to say is in such an advanced state that it will soon be brought before the public under such a policy as will insure its success.

Nineteenth Annual Report of the Board of Directors of the Pacific Railroad of Missouri.

(Submitted to the Stockholders Mar. 29, 1869)

The Directory of the Pacific Railroad herewith submit to the stockholders an exhibit of the affairs and condition of the company for the fiscal year ending February 28th, 1869, as required by the charter:

In accordance with the provisions of an act of the General Assembly of the State of Missouri, authorizing the purchase by the Pacific Railroad Company of the claim of the State upon the road for five millions of dollars in State bonds, that amount of bonds has been paid to the State and a deed dated October 10th, 1868, conveying to the Pacific Railroad Company all claims, title and interest which the State of Missouri had upon the said railroad has been executed by the Governor, and delivered to the said railroad.

To provide for this purchase from the State of Missouri, and take up the Dresden bonds as they mature, the company has issued seven millions of dollars in First Mortgage Gold Bonds, payable twenty years from August 1st, 1868, with coupons payable semi-annually at six per cent. per annum; a copy of the same being submitted herewith.

Only \$3,559,000 of the seven millions have been disposed of, and the members of the Finance Committee, to whom these negotiations were entrusted, are still liable, including interest, for some \$1,230,000, borrowed by them to purchase Missouri State bonds, as set forth in the report of said committee herewith submitted.

If from \$3,441,000 in First Mortgage Bonds now unsold, \$500,000 should be held to provide for that amount of Dresden bonds maturing April 1st, 1870, and the remaining \$2,941,000 sold at not more than nine per cent. discount, a sufficient sum would be realized to pay the liabilities incurred by the Finance Committee, also the entire present floating debt of the company, and, except that a change of gauge has become necessary from the requirements of business as well as the provision of the law under which the purchase of the State claim was made, the company would within two months, probably, be relieved from all liabilities except the funded debt of \$7,879,000.

In preparation for the change of gauge contracts have been made for the construction of 46 locomotives, 350 cars, 150 set of trucks and 1,500 ton of rails, to cost in the aggregate \$1,090,000, to which must be added the expense of changing the present rolling stock, and removing the rail, amounting to \$130,000, requiring a total expenditure of \$1,200,000, for which some provision must soon be made. Of the same, \$320,000 can be realized from the unsold real estate bonds, and probably \$300,000 from the earnings of the road; but it will be necessary to provide \$600,000 from some other source. From the improved financial condition of the company a more economical operation of the road has become practicable, but there should, if possible, be no floating debt; and if this \$600,000 can be funded by the close of the current fiscal year, (with the same prosperity as that of the past) the railroad will be entirely finished, fully equipped and earning \$1,100,000 per annum, with no very material liability, except a funded debt of \$8,800,000.

Notwithstanding the reduction in rates for transportation of both freights and passengers the earnings have increased \$74,000;

while the expenses are reduced \$71,000, making a net increase of \$145,000; the total earnings for the year being \$3,077,890.70; the operating expenses \$1,959,653.17, and the net earnings \$1,118,237.53; the road having been operated at an expense of 63 and 67-100 per cent. of the gross earnings.

Besides the amount of \$257,527.83 expended upon account of construction, as set forth in the report of the Superintendent, and the expenditures for interest and purchasing of the State claim, the floating debt, other than that incurred for purchase of Missouri bonds, has been reduced \$334,000, as will be shown by the Auditor's report.

The attention of the stockholders is called to the accompanying report of the General Superintendent upon the operation, condition and requirements of the railroad, and the additions and improvements made during the year; and also to the report of the Auditor, giving in detail the items of receipts, earnings and expenditures.

The Osage Valley & Southern Kansas Railroad, extending from Tipton to Boonville, twenty-six and one-sixth miles, was opened for business in November last, and is now operated by this railroad under a lease for a term of thirty years; that company to receive thirty-five per cent. of the gross earnings upon said road.

Surveys and estimates have been made for a railroad from Pleasant Hill to Fort Scott, and new connecting lines will be soon opened from Sedalia to Lexington, and between Leavenworth and Atchison.

As another competing road to Kansas City is now in operation, and several different lines are being constructed which will compete for the business from the South-west, now commanded by this railroad, it becomes very important that the affairs of this company should be conducted with great energy and enterprise, and every effort made to extend its connections, and to develop and command the business which may otherwise be diverted by the rival lines.

It is most especially desirable that roads from our line to Fort Scott, and between Pleasant Hill and Lawrence, or Topeka, should at an early day be either constructed or operated under the control of this railroad.

The road bed, superstructure, rolling stock and property of the company, as well as its business and prospects are now believed to be in a better and more prosperous condition than at any previous period; and if its directory shall be enabled to offer favorable terms for leasing the branch roads now about to be constructed, and extend its connections in Kansas, and with the Union Pacific Railroad, it will soon become one of the most important enterprises in the country, rendering it a source of profit to the stockholders, and adding largely to the wealth and prosperity of our city and the State.

All of which is respectfully submitted in behalf of the Board.

(Signed)

James H. Lucas,
President.

Life Insurance.

The Insurance Chronicle reviewing the progress of Life Insurance Companies in the United States, speak as follows of the Knickerbocker of New York, to all of which we unhesitatingly add our indorsement:

With the beginning of the current year, the "Knickerbocker" adopted certain new features, which need only be mentioned to establish all that its warmest friends would claim for it on the score of equity and liberality. Its dividends are declared upon the only just plan—the "Contribution"—and hereafter are to apply upon payment of the second annual premium.

Restrictions of locality are so far abolished, as to allow of residence or travel in any of the civilized settlements of the United States and British America, and of voyages to Europe, without extra charge. All Participating Policies are made strictly nonforfeitable, the illicit gains derivable from the misfortunes of Policy-holders making no contribution to swell the assets of this Company. And what is quite as valuable as any of these features, a new form of policy has been adopted, wherein every condition of contract, as set forth in the printed pamphlets of the Company, is distinctly and explicitly stated. The Insured in the "Knickerbocker" will not be confounded or deceived by gross discrepancies between the conditions of his contract with the Company, and the representations by which he was induced to make the contract. Everything is done on the square, and the applicant will find the goods, when delivered, to be the same as the sample by which he was influenced to make his purchase.

The "Knickerbocker" has taken yet another forward step, which will especially interest its Western patrons. To accommodate its growing business here, and to facilitate its dealing with Western Policy-holders, a Branch Office has been opened in this city at 166 and 168 Randolph street, whence Policies will be issued and where losses will be paid, for the States of Illinois, Indiana, Ohio, Michigan, Wisconsin, Minnesota, Iowa and Missouri, and the same business relations be maintained with the members of the Company in those States, as if this were the Parent Office, as, indeed, for all practical purposes, to them it is. This Office is under the supervision of S. A. Mattison, Esq., late the General Superintendent of Agencies throughout the United States, for the New York Life Ins. Co., and widely known alike to the Agents and the Insured of that Company, and to the whole Life Insurance world, as an energetic, faithful and efficient worker in the cause. Mr. Mattison has signalized his entry upon the duties of his new position, by many valuable innovations upon the old routine, which show that he is treading upon no unfamiliar ground, and with no uncertain steps.

RAILROAD MEETING.—A meeting of the citizens of Lansing was held on Tuesday evening, at the Common Council room, to consult with gentlemen from the counties of Gratiot, Clinton and Isabella, in relation to the construction of a railroad from Lansing to St. Johns, and thence north through the counties of Clinton, Gratiot and Isabella, to intersect the Flint and Pere Marquette Railroad. Hon. A. N. Hart was elected Chairman, and S. L. Kilbourne Secretary. S. B. Smith and T. H. Pollard of St. Louis, James Gargett of Alma, and Hon. H. B. Barnaby, Representative in

the Legislature from Gratiot county, addressed the meeting. Their statements show a most favorable route, large business for the road, and a strong movement along the line in behalf of the road.

Of the \$1,000 per mile required to be raised by subscription to secure the organization of a company, Alma has subscribed \$21,000, Ithaca \$10,000, St. Louis \$30,000, and \$12,000 in Isabella county; making a total of \$73,000, while the entire line is but 79 miles in length, leaving only \$6,000 to be raised in Clinton and Ingham counties. Assurances were made that the people from St. Johns were thoroughly aroused to the importance of the work, and would not only subscribe liberally, but vote ten per cent. under the general railroad law.

Messrs. Hart, Chapman, Whitney Jones and French pledged the liberal aid of Lansing to the road, which would insure the completion of the air line from Cincinnati to Amboy, and thence, via Albion and Eaton Rapids to Lansing, thus making the entire line one of the most important in the State.

After full discussion the following resolution was unanimously adopted by the meeting:

Resolved, As the sense of this meeting, that the citizens of Lansing will extend such aid to the proposed railway from Lansing north, through the counties of Clinton, Gratiot, and Isabella, to an intersection of the Flint and Pere Marquette road, as their ability will permit.

Messrs. A. N. Hart, Wm. H. Chapman, Whitney Jones, Cyrus Hewitt, E. W. Dart, Daniel L. Case, E. H. Davis, J. B. Hull, James Turner, S. D. Bingham, J. M. French and H. B. Shank, were elected delegates to attend a railroad meeting to be held at St. Johns on the 15th of April, to consult with delegates from other localities on the proposed line for the permanent organization of the company. Messrs. J. M. French, Whitney Jones and S. L. Kilbourne, were elected a committee of correspondence, and the meeting then adjourned.

ANOTHER RAILROAD.—The efforts of the citizens of Lansing in behalf of railroad projects have already made us a center for several roads, and another important project is being agitated by the people north of us, of great importance to home interests. It is the building of a railroad from Lansing to St. Johns, thence north through Gratiot and Isabella counties to intersect with the Flint and Pere Marquette road at some point west of Midland City. This road would run upon the water shed or dividing line of the waters that flow eastward to Saginaw Bay, and westward to Lake Michigan. It would pass through a country rich in agricultural resources, and with immense quantities of pine timber that will be at once made marketable by such an outlet. It would shorten the distance of travel to the capital of the State from the point of intersection with the Flint and Pere Marquette road from 75 to 100 miles over that by the way of Saginaw. Extended to Eaton Rapids, to which point the Northern-Central Railroad is sure to be completed from Jonesville in a short time, and it would form a portion of the great direct route from Cincinnati to Mackinaw.

To give readers some idea of the state of feeling in relation to the building of this road, we can only say that at Mt. Pleasant, Salt River, Alma, St. Louis, Ithaca, and St. Johns there are meetings being held in relation to it; and St. Johns will give \$45,000, St. Louis \$30,000, and other places in proportion, by subscription, while there is not probably a town

—At a recent meeting of the Farmers' Club of the American Institute, Dr. Feuchwanger gave an account of experiments made by him for the preservation of wood. He said that wood boiled first in limewater and then coated with silicate of soda or liquid glass, will last a very long time. The mixture is fifteen per cent. alkali and ten per cent. pure sand.

on the whole line from Lansing to the proposed terminus, a distance of about 75 miles, that will not, in addition to the large amounts that can readily be raised by individual subscription, vote the ten per cent. under the general railroad law.

Let the people of Gratiot and Clinton counties go to work with a will. The first link to be built in this road should be from St. Johns north, to control the traffic and trade of Gratiot county. Thirty miles of such road would at once be a paying investment, and would insure the completion of the whole line. Then by a direct appeal to the capitalists of Cincinnati the means can be obtained to build and equip the air line route from Cincinnati. Lansing will put her shoulder to the wheel. Organize your company and go to work at once on the grade north of St. Johns, assured that the road will be built. There is no such thing as failure to those who will.

The Track and the Rail.

Whatever improvement may be made in the material of rails, wheels and tyres, as to securing greater strength or greater wearing qualities, a good portion of the greater cost of the improvement will be thrown away, unless the road-beds and superstructures are kept in better condition than many of them now are. We do not know that the fast passing winter season has been more unfavorable for railway works than were those of preceding years, but certainly there has been no season when so many accidents have ensued from broken rails and broken tyres. Now the rail and tyre manufacturers ought not to bear all the blame for these disasters. We have been in the habit of holding the tyre and rail makers to a pretty strict rule of responsibility for breakages, and we still intend to do so, but the railway managers should be held to as strict a rule with regard to the condition of the track. It is of very little use to pay a large advance for steel tyres and steel rails, if they are to be used on roads such as we have had some experience upon within the past ten days, and in case of disasters coming from the breaking of rails or tyres on these roads, we confess that our sympathies must go with the manufacturer and against the manager. After proper drainage has been secured, and that is the most important duty of the constructing engineer, and the bed is dressed with ballast, there is no reason, or rather no excuse, for a rough, uneven track, even in a climate as unfavorable as that of New England. It is perfectly within the power of the track hands, if they are competent men, to keep the track in that state of comparative evenness, that allows safe and economical operation. There is no excuse for allowing a track in such condition that the driving wheels fall from one-half to a full inch in passing over joints, and the whole locomotive becomes a mighty steam hammer to pound itself and the rails into fragments; and yet that is just what is now being done on some roads that we could name, and the officers of which have a favorable reputation for good management. We repeat, that there is no excuse for this in a section of country where stone and gravel for ballast are abundant, and where plenty of skilled labor can be had by paying for it. What is needed is a more free use of the gravel trains, the spade and the tamping iron and more section hands. It costs on the average nearly twenty-five cents per mile run on the railways of Massachusetts for road-bed expenses, and with the known results of damage from

rough tracks we have no doubt that it would be good economy in many cases to double that expenditure, as by so doing the wear of every portion of the rolling stock, and of the rails and ties will be very much prolonged, and the general repair expenses per mile very much reduced. This result is certain just so far as the work is made to approximate in evenness to the bed of the planer. When the wheels of the engines and cars cease to become hammers on the track, we shall hear less of disasters from broken rails and broken tyres, derailed engines and overturned cars. Every professional work upon railway construction and modern railway practice, lays particular stress upon the importance of this matter, but either the railway manager does not read these, or if he does, thinks very lightly of the teachings found there, like some very practical farmers who "do not believe in book learning." There is nothing more certain than this: that just in proportion as the track is made and kept smooth will the repair expenses of the track and all the rolling stock become reduced. It may cost something first to bring the track up to the required standard, but no matter what the first cost, it will be found substantial economy in the end. Every dollar properly expended in this direction may be looked upon as an insurance premium paid for prolonging the "life" of the rail and rolling stock, and preventing those disasters which cost railway companies so large a sum annually.

Railroad Iron.

ITS ECONOMY AND DURABILITY.

We find mineral matter all alive with desire and power. Every atom reveals to us a force that—repelling here, attracting there—holds it in its place. Through all the varied changes of matter, and in the workings of all laws and systems, we discover everywhere the same secret forces: There mobile, elastic, impendable forces are, the bond of union and vital principle *alone*, that holds the atoms together, and whatever has a tendency to destroy them, destroys the cohesion of particles, and the atoms seek new affinities and form other combinations. Hence our finest metal structures soon crumble, and associate themselves with the very dust they were vainly intended to commemorate.

The mode of preserving of metals, especially iron, has, in our day, become a vital question. Owing to the complexity of structure and the heterogeneousness of parts, with the presence of and contact with, electro-negatives, everything made of iron is most unstable. In the disturbance of these forces we see cause for its rapid decay; which can only be effectually controlled by the closest investigation of the physico-chemical relations of each piece of metal used in iron structures.

All these causes, whether mechanical, physical, or chemical, exercise an influence over chemical action, and consequently over the production of electricity; which is, as we showed in a previous paper, the cause of deterioration. So long as an electrical equilibrium is maintained in all the parts, there will be no loss of cohesive power.

In order to bring about this condition of things in complex metal structures, the important and expensive parts should be made of the superior qualities of metal, and so combined with other parts that the electro-chemical effects produced from various causes will

result in favor of the important parts. For instance, rails should be made of a better quality of iron than the chairs, fish joints, switch bases, etc., that they come in contact with.

These minor parts may easily be protected by a positive metal, not mechanically requisite, which will act as a feeder to compensate for the loss of forces caused by every vibration or molecular movement that the whole are subject to, and thereby maintain the equilibrium. Wrought iron and steel tyres tend to deteriorate iron rails, while the cast-iron or chilled tyre adds to their cohesion. To illustrate, take the chilled wheel, with its hard face in contact with the comparatively soft rail: Every movement between the two adds to the cohesion of the rail, and deteriorates the wheel; so that after it has run from 20,000 to 50,000 miles the chill has worn off. In the case of rails coupled at the ends with cast-iron joints after ten years' constant use,—for two years day and night with two dirt trains,—it was found that over a mile of such track the rail with a battered or crumbled end was so rare as to constitute the exception, the loss of metal being from friction alone. In a road constructed with the proper combinations of metal, the rails would improve in quality until worn away by friction, instead of becoming in a few years a fragile granulated mass.

The law of physics should be as well understood as the law of mechanics; for rest assumed the invisible forces are as potent as the visible, and should be provided for with the same precision. I shall hereafter enter more into facts and detail on this subject.—*Railway Review*.

The Suez Canal.

Mr. John Fowler, an engineer wise in his generation, the author of works in which almost every resource of modern engineering art and science has been applied, is now in Egypt. The Prince of Wales has the advantage of his society, with Dr. Russell, of Indian and Crimean fame, and the Duke of Sutherland, who this time seems to have brought his amateur engineering tastes to some useful purpose. It must be confessed that in choice of companions, or associates, our Prince may stand in favorable comparison with the majority of heirs of thrones, past and present. Mr. Fowler, leaving the financial directors of his *magnum opus*—the Metropolitan Railway—in their troubles of capital, labor, and law, quite certain that, in spite of any difficulties, it will be strong enough to find its way through the bowels of the earth to a complete circle, has taken leisure, much needed, beyond the reach of the penny post, if not of telegrams, combined with business. In the pursuit of the two he has surveyed the Isthmus of Suez Canal, and reported its progress in language evidently inspired by the land of the Sphinx—so encouraging, and yet so cautious. With this report his magnificent host in the tour of inspection, M. de Lesseps, could not fail to be pleased, for fully does it do justice to the efforts and success of that astute and energetic financier. Mr. Fowler says, in effect, there are no difficulties in the way of completing and working the Suez Canal, *provided sufficient capital and revenue can be found*; that if it be completed on the scale indicated, it will find traffic, not only in existing steam fleets, but in ships with auxiliary screw power, built expressly for the purpose. But when we follow Mr. Fowler's suggestions and emendations, made with all the force of a truly

practical and experienced engineer, one by one, they are sufficient to make the boldest capitalists stand aghast. Mr. Fowler was not called upon to say anything that would be unpleasant to M. de Lesseps, his guide and host, or the Viceroy, by whom he, as one of the Royal suits, was most magnificently entertained, or anything that would damage his well-deserved reputation as an engineer; but if we could put him in the witness-box for cross-examination, it would turn out that he considers the whole capital expended on the Suez Canal lost for ever, and that, by the expenditure of at least twice as much more, there is a chance that an income may be earned equal, or nearly equal, to the working expenses—in fact, a sort of Caledonian Canal result. Let us see what he requires. At Port Said, where millions have already been expended, the open breakwater is to be considerably extended and made solid, and then with powerful dredging-machines, continually kept at work, a sufficient harbor for a great trade may, *he thinks*, be kept open. The canal itself, when excavated to the full depth, may be made fit for the use of steam-vessels by paving the whole of the banks—an operation which, taken at the prices at which the Birmingham Canal has been so perfected, will cost as much as all that has been done on the Suez Canal up to the present time. The shifting, blowing sands would afford serious and continual work to the dredging-machines; but Mr. Fowler believes correctly that paving and planting will eventually bind and settle sands. Rob Roy, in his canoe-voyage on the canal, spoiled one capital and truly original stock jobbing device. He described how he saw a small French war brig, emptied of guns and stores, floated on barrels and caissons toward the Red Sea. If it had not been for this prying Scotchman, we should have heard, some fine day, on the Paris Bourse, of the triumphant passage of a French man-of-war from the Mediterranean to the Red Sea. Very soon, no doubt, the Suez Canal will be open to small craft—already it has created fertility in bringing fresh water to Suez—but some new financial combination must be completed before it becomes of appreciable use in our Indian, Chinese, and Australian trade. M. about declares that M. de Lesseps' visitors are refreshed with champagne and a breakfast by a Paris artist in the same wooden hut, shifted at every halt, and entertained by the sight of some gang of model laborers sent forward in advance. But this is no doubt a joke—at any rate, a trick that would not take in so old a traveler and engineer as John Fowler. The simple truth is, that the canal, completed to carry sea-going steamers, would be immediately used, and mostly by British steamships. At present it is a fearful financial failure; but we shall learn more when Mr. Fowler reads, as in duty bound he must, the "impressions of his voyages and travels", at the Institution of Civil Engineers.—*London Journal of Gas Lighting*.

The receipts of the Western Union Railroad Company, for the week ending March 31:

	1869.	1868.	Increase.	Decrease.
Freight.....	\$8,444 28	\$11,063 92	.....	\$2,639 64
Passengers....	5,450 95	4,998 50	\$952 45	.....
Express & Tel.	350 00	350 00	.....	.....
Mail.....	375 00	375 00	.....	.....
Totals.....	\$15,020 23	\$16,707 42	\$952 45	\$2,639 64
Receipts from January 1, to March 31:				
1869.....	139,747 61	.....	.....	.....
1868.....	.....	126,311 04	.....	.....
Increase.....	.....	.....	\$12,431 57	.....

Belgian and English Rails.

We have heard a great deal about Belgian competition of late in the iron trade. It has indeed been a kind of bogie, but it is little more. If we take the great article of rails for instance, we shall see that John Bull fully holds his own against Belgium, albeit that the Belgians are not deficient in energy or intelligence. But let us see how accounts stand with regard to the exportation of English and Belgian rails. We have not yet at hand the complete figures for the whole of 1868, but we have got them for the eleven months ending November 30, and in that period, and also in the corresponding periods of 1867, and 1866, Great Britain and Belgium respectively exported rails as follows:

	1868-tons.	1867-tons.	1866-tons.
Great Britain.....	544,579	552,037	468,615
Belgium.....	67,385	76,967	62,674
Balance in favor	of Gt. Britain, 477,194	475,070	405,941

It is perhaps right to remark that the Belgian figures relate to rails exclusively, while the British comprise the accessories known under the generic designation of "railway iron." Some little allowance must be made on this score, but nothing of a very material character; and it will be seen that the divergence between the English and Belgian figures is every year becoming more considerable. So far from our being ruined by Belgian competition, as some persons would have had us believe a year or two since, we are leaving the Belgians further and further behind us. The only market in which Belgian rails can be said to sustain a serious competition with English is Russia; but even in Russia we have a decided advantage. Thus our deliveries of railway iron to Russia in the first eleven months of last year were 101,286 tons, while the quantity of Belgian rails sent to Russia in the same period was 44,560 tons, leaving us in a majority of 56,726 tons. In the corresponding period of 1867, the figures were respectively 125,898 tons and 63,895 tons, showing a balance in our favor of 62,003 tons; and if we go still further back to the first eleven months of 1866, we find totals of 53,441 tons and 32,416 tons, so that while the first eleven months of 1866 left us with an advantage of 23,025 tons as regards the Russian market, the favorable balance had expanded in the first eleven months of last year to 56,726 tons—a gain of 33,701 tons in two years. When we turn from Russia to the United States, we find the balance of our railway iron exports overwhelmingly in our favor. The Belgians have cast during the last year or two longing glances across the Atlantic, and would fain have ingratiated themselves in Jonathan's good opinion; but although there may be an occasional jar between the United Kingdom and the United States, there is far more in common between Americans and the British than there is or probably ever will be between the Americans and the Belgians. This community of feeling is seen in the fact that the Americans took 248,246 tons of our railway iron in the first eleven months of 1868, as compared with 167,335 tons in the corresponding eleven months of 1867, and 96,814 tons in the corresponding eleven months of 1866, while Belgian rails were sent to the United States to the extent of only 5,378 tons to November 30th last year. Small as this total may be, it shows some progress when compared with the corresponding return for 1867, when the shipments of Belgian rails to the United States were just nil. Of one great market—that of British India—British rail producers have still an ab-

solute and complete monopoly; and the importance of this monopoly will be seen when we state that, although the demand on Indian account has somewhat fallen off of late, it absorbed 62,323 tons of our railway iron to November 30th last year: The Australian and Canadian markets are not at present of any very great importance, but such as they are they have been, hitherto, almost exclusively our own; and they promise also to increase in extent and value. The Confederation of the British North American provinces into one powerful dominion and the construction of the Intercolonial Railway, which has been commenced this month, can scarcely fail to stimulate and help on the demand for our rails in that quarter of the colonial empire this year; while as for Australia it may be said that she is yet only now seriously beginning to apply herself to the work of railway development, although she seems inclined to supply herself, if possible, with her own rails and material. This latter contingency is still remote; and, at any rate, we need stand in no fear of Belgian competition in the Antipodean world.—*London Colliery Guardian*, Feb. 26.

The Inter-Oceanic Ship Canal.

In a letter in the *New York Times*, of March 17, dated Panama, March 8, occurs the following extract of the President of the United States of Columbia to Congress in session at Bogotá:

"One of the principal difficulties in contracting for the excavation of a canal consists in the fact that the portion of our territory which is by nature designed as the spot where the two oceans shall be united, is embarrassed by a concession which was made with unbounded liberality in favor of the Panama Railroad Company, by virtue of the contract celebrated with it, selling the reserves, which the nation had secured for herself in said railroad. According to article 2 of the Legislative decree, approving the said contract, this Government can not, while the privilege lasts, build, or open, or permit others to open, any canal across the Isthmus of Panama to the east of a line from Cape Tiburon on the Atlantic to Point Garachine on the Pacific, to unite the two oceans, without the accord and consent of the said railroad company. If the explorations should establish the fact, that the line where the canal can be built is to the east of this demarkation, the full extent of the damage which threatens the successful issue of the enterprise will be at once apparent.

"The treaty prepared by the Plenipotentiaries of Colombia and the United States of America, and approved by the Executive, will be submitted to Congress, who, in union with all good citizens, will devote the attention that this important subject demands, which is probably the most transcendental of our day, not only for this country but for the world.

"If the spot exists in our territory, which may become the point of union of all the waters, and necessarily of all the lands, and if at this point with the unanimous consent of all the maritime powers we shall cause the principal of perpetual neutrality, and a strict equality for all flags in the common use of the canal to prevail, our national escutcheon shall then in future not only represent the symbol of our fortunes, but be impressed with the seal indicated by nature and granted by our spirit of justice at the providential union of the human family."

Our Wealth Decreasing

If, instead of gaining in wealth, we are rather losing ground, then it is of the utmost practical importance to ascertain who are the losers. There is somewhere a steady loss of capital going forward. The loss is not to be looked for among the operative and employed classes; for in the first place, they have little to lose, and, in the next, the returns of the Savings Banks and social criteria generally fail to indicate loss on their part. We presume it will not be supposed that the agricultural class (although they have not increased in number proportionately to the increased population) have perceptibly diminished in wealth counted in lands and bonds. Manufacturers also, though at one time heavy losers through the heavy decline in prices, have for the last two or three years been more prosperous. It is mainly among the distributors of commodities that we must look for the evidences of diminished wealth; and recent failures and facts well known in commercial circles leave little room for doubt that as a class this interest is working without profit. We do not mean to intimate any general insolvency among merchants; but simply that in a large number of instances their private and business expenses exceed their profit. This is a well known fact every day remarked upon by merchants themselves.

The great evil of our present condition, it is thus seen, lies in the fact that too much of the labor and capital of the country are employed in the distributing process and too little in production. It is impossible to overestimate the importance of this fact in all its bearing upon our efforts to regain the specie basis. It is out of the question to suppose that we could safely resume specie payments, under such a condition of commercial affairs as now exists; and much less that we could do so without business suffering. We above all things require, as a condition precedent to resumption, that the commercial interests at large should be in a state of average soundness; and the first preparatory inquiry should therefore be directed to the means of checking the existing over-expenditure of all classes of the community. Can legislation accomplish anything toward checking the current over-importation; or arrest the prevailing extravagance; or diverting labor to productive pursuits? Or must affairs be left to find a sounder basis by a natural process?

These questions must be reserved for future consideration.—*N. Y. Financial and Commercial Chronicle.*

MODE OF DIVIDING GLASS.—The following plan, to break a bottle or jar across its circumference, so as to form a battery cup or vessel for other purposes, may be of some service to your readers. I have performed the operation successfully many times. Place the bottle in a vessel of water, to the height where it is designed to break it; also, fill the bottle to the same level. Now pour coal-oil, inside and out, on the water; cut a ring of paper, fitting the bottle. Saturate with alcohol or benzine, so that it touches the oil. Pour, also, some inside the bottle. Set on fire; the cold water prevents the glass from heating below its surface, while the expansion caused by the heat will break the vessel on the water line.—*J. T. Peet: Scientific American.*

—The boot and shoe manufacture of Cincinnati in 1840, amounted to \$448,000; in 1860, to \$1,750,000; in 1868, \$4,300,000.

The Ninth Decennial Census.

A memorial which has been presented to Congress relative to the method of taking the next decennial census, signed by the principal officers of nearly all the life insurance companies of the United States, makes some important suggestions. Of course these are more or less in the interest of the profession of the memorialists, yet may they be of the highest practical value to the public, coming as they do from those who have given much study to the various methods of obtaining statistical facts in order to avail themselves of that which will secure the very highest attainable degree of completeness and accuracy. They recommend that the census be taken in one day instead of being, as heretofore, extended through a period of several months. This method is to be facilitated by the prior distribution to householders and others of schedules, on which are to be entered the names and description of every person actually present on a certain specified night preceding the day on which the enumerators are to call for and examine the returns. This, it is claimed, will insure the maximum of accuracy in the returns with a minimum expenditure of labor on the part of the enumerators. They urge the importance of this, in the first place, to the people of the United States, in view of the solution of practical questions constantly arising in determining the values of life and reversionary interests in estates, legacies and successions; in the second place, to the Government of the United States, in providing for the equitable taxation of such life and reversionary interests and also in view of the probability that some considerable portion of the public debt may yet be converted into annuities contingent on the duration of life. The accuracy and completeness demanded for those purposes, if extended to the inquiries respecting agriculture, manufactures and other industrial interests, would tend greatly to enhance the value of the results obtained. It is stated that the system here recommended has been in successful use in England and Belgium for a series of years past, and is the system repeatedly recommended by the International Statistical Congress.

ALKALI LAND.—The following article will dispel an erroneous idea entertained by many of the citizens of this and adjoining counties relative to the worthlessness of alkali lands. The experiments cited develop the fact that the longer such lands are cultivated the more productive they become:

A remnant of volcanic matter stretches through the eastern side of Santa Clara Valley and is familiarly known as the "alkali streak." This curious belt varies in width from one hundred yards to a quarter of a mile, and the soil contained within it is completely saturated with saleratus and other alkaline salts. At present the alkali streak is almost valueless for agricultural purposes, and is considered a positive detriment to the farms through which it passes in its natural condition. The only vegetable life which can exist upon it is a species of tough, wiry grass, known as "alkali grass," and a few stunted specimens of marsh weed. Experience has proven that the alkali grounds can be reclaimed by cultivation. At present some of the handsomest gardens and orchards in San Jose are thriving in the very heart of the alkali streak. It requires time and labor to accomplish the reclamation, but in the end it is found that the subdued salt acts as a first class fertilizer.

Every farmer is familiar with the fact that if ashes be thrown in heaps upon a meadow, the excess of potash which the rain leaches from the ashes, will completely destroy surrounding vegetation. The same effects are produced by an excess of alkali in the soil. If the pile of ashes are scattered broadcast over the meadow, they form an excellent manure and will be of great value to the growing crop. If, by constant cultivation, the alkali grounds are constantly stirred about, the deleterious salt will be equally distributed through the soil, and will become a supply of natural manure. The longer such grounds are cultivated, the more productive and valuable will they become, and, instead of being considered worthless wastes, as they now are, will be sought after by the gardener and farmer. One of the best methods for reclaiming these lands is to sow them with beets. It has been proven by experiment that the beet thrives finely in the alkali streak, and as these tubers grow large and penetrate the soil to a considerable depth, they serve a better purpose than deep plowing.—*Santa Clara Argus.*

PRODUCING TOO LITTLE.—We do not care to inquire whether the fault lies in our producing too little, or in our consuming too much. Certain, however, it is that our present consumption bears no healthy ratio to our production. The course of our trade too plainly illustrates this fact. For the last seven years our importations have immensely exceeded our exports. Nor can it be said that the difference has been set off by the profits upon our exportations, or the losses on foreign consignments to our markets. The fact has been demonstrated in our columns that we have sent to Europe within late years over \$750,000,000 of securities; nor has this process ceased; but this year we have shipped probably \$35,000,000 of railroad stocks and bonds and other securities to England and the Continent. These remittances of securities represent the difference against us upon our foreign trade account. It is not necessary to inquire at present whether this exchange of evidences of indebtedness for foreign commodities is advantageous to the country at large; we rather wish to direct attention to the fact that, before the war, we were able to wholly pay for our imports with our products; and the circumstances that we are not doing so now, proves beyond a question that our production does not bear so large a proportion to our consumption as formerly. It is very clear that, under such a course of affairs, we can not be increasing our actual wealth; for a very large proportion of our importations consists of commodities which perish in the using, and are but little promotive of reproduction. Were we importing less of mere articles of enjoyment and luxury, and more of raw materials, of necessary food, of the materials of industry, and of the appliances for transportation, then we should have less occasion for regret at transferring into the hands of foreigners such an immense amount of obligations at a heavy depreciation, but we have by legislation encouraged their production here, under disadvantages which involve a substantial waste of labor; and this consideration justifies the deduction that we have had no increase of wealth proportioned to the value of securities sent abroad. This may be an unwelcome conclusion; but we do not see how it is to be honestly evaded. It is no part of wisdom to conceal from ourselves the plain facts of our condition.—*Exchange.*

MILL PICKS.—The manufacture and tempering of mill picks are subjects which have engaged the earnest attention of practical men in all parts of the world, and numerous processes, possessing more or less merit, have been published. Notwithstanding all this information has been given to the public, enquiries are often made of us for a recipe for a pickle or fluid which will best answer for tempering picks. We have taken pains to collate the following, which we believe will answer the purpose, premising, however, that only the best double refined tool steel should be used. Be careful not to heat the steel higher than a dark cherry red, and draw to shape on a smooth faced anvil, striking light blows from the center toward the points; do not strike the pick on its edges while finishing; hammer only on the flat sides, lightly and rapidly, "lapping" the blows so as to close the pores of the steel, until the metal is quite dark. When the picks are finished, prepare a bath of rain-water, to each gallon of which a pound of salt should be added. Heat a pick gradually from the center toward the point, and when it is a dark cherry red in color, dip the point vertically in the bath, holding it still until the heat is drawn, and cool the pick in clean cold water. When the pick is taken from the tempering bath, the point will exhibit a silvery lustre. Picks tempered in this manner will do all that can reasonably be expected from a tool used for such purposes. The whole secret lies in the heating and hammering. The salt in the bath is simply used for removing the scale and toughening the steel; salt water requiring a greater degree of heat to raise its temperature than fresh, consequently the steel cools quickly in it. If not sufficiently hammered, the steel will check at the edges, and if heated too hot, will crumble. Attention to the details of the above described process will enable a competent blacksmith to make and temper as good picks as a professional tool-maker.—*Inventor.*

NEW METHOD OF TRANSPORTING MATERIALS.—A new method of transport has been adopted in Leicestershire, England, for conveying stone from Messrs. Ellis & Everard's granite quarry to the railway, a distance of three miles. The plan has been worked out by Mr. Hodgson, C. E., and consists in the employment of an endless wire rope, supported on pulleys, which are carried at a considerable height from the ground on stout posts, the entire arrangement having much the appearance of an ordinary telegraph line. A portable steam engine drives the rope at about five miles an hour, and it carries with it a continual stream of boxes, each holding one hundred weight of stone. The rope is endless, so that the full boxes travel at one side of the supports and the empties return at the other, and the pendants by which the boxes are hung are specially formed so as to allow of their passing the points of support, which they do with perfect ease. This line crosses the country boldly as an ordinary telegraph would, and from its cheapness, the rapidity with which it can be constructed, and the ease with which it can be moved, it seems probable the method will be found of considerable use in the development of the resources of new countries as a kind of precursor to the railway system.

—Every railroad train in Sweden is provided with an efficient medical staff and complete pharmacy, so that in case of accident no time is lost in administering to the wants of the wounded.

DIAMOND BORERS.—It is said that the apparatus for boring rocks with diamonds was originally patented in France by Leschet, in 1864, and was rendered practical by Pihet in 1866. It consists of an iron tube, the end armed with a series of black diamonds of Siberia, which are set in such a way that by turning the tube they excavate an annular groove in the rock, and leave in the center a solid cylinder which enters the tube and is easily broken off and extracted when the boring is finished. Fifteen such machines have already been manufactured. The progress is about three quarters of an inch per minute. The diamonds wear very little. It is known that this also is the case with the glazier's diamonds and that the black diamond is a variety much harder than any other. The expense of boring with a machine of this kind is not materially greater than boring in the old way, although more work is turned out; but the great advantage is that in the same space, where three borers were attached, eight of these machines may work, requiring not more power to drive them. The expense of excavating tunnels with a single machine of this kind, in hard rock, was found in France to be forty or fifty francs per cubic metre, which corresponds to \$6 or \$8 per cubic yard.

CORN AND COTTON.—As to corn and cotton have been ascribed regal powers by their respective adherents, the amount of each raised in the United States the past year will interest our readers. We learn from the monthly report of the Department of Agriculture that among the corn-raising States Illinois stands first on the list, having produced the past season 134,365,000 bushels; Indiana next, with 90,832,000 bushels; Ohio third, with 74,040,000 bushels; and Iowa fourth on the list, 65,332,000 bushels. Rhode Island, on account of the small garden lot accorded her, stands lowest, 340,000 bushels. Of the States in rebellion Tennessee stands highest, having raised 54,772,000 bushels; Mississippi next, 35,519,000 bushels; Arkansas next, 32,440,000 bushels; and Alabama next, 31,240,000 bushels. Few of the States show a decline from the previous year, the aggregate increase being over 137,000,000 bushels, and the total amount produced reaching 905,178,000 bushels. Of this amount the fifteen States which lately held slaves produced 410,432,000 bushels.

The cotton crop, which was threatened in the early part of the season with disaster, so far improved under the auspices of favorable Fall weather as to warrant the belief that it will be very little below the figures of 1867, and quite equal to half the crop of 1859, and net an equal or greater amount of money to the planters. Among the cotton-raising States Mississippi stands highest, having raised the past year 400,000 bales; Georgia next, 290,000 bales; Alabama next, 285,000 bales; Arkansas next, 65,000 bales; and Texas next, 290,000 bales. The aggregate amount reaches 2,380,000 bales, against 2,450,000 bales in 1867, and 1,835,000 in 1866.

—There are in the United States about 6,000,000 cotton spindles which cost \$25 each, or \$160,000,000. The capital used to work them is not less than \$12 50 a spindle, which is \$50,000,000 more. Add to this shops for making cotton machinery and "supplies" \$20,000,000, making in all \$260,000,000. This machinery works up 16,000 bales of 400 pounds per week, making 832,000 bales per year.

PENCIL MAKING.—Nearly one hundred and fifty-years ago the pencil manufacture commenced in England, and improved in France, near Nuremberg, in Bavaria. Little more than a century since, Casper Faber there began to make the pencils, which continue to be made by his descendants, and bear the family name throughout the world. The present John Lothair Faber, great grandson of Casper, has been head of the firm since 1839, and is not only very wealthy, but has recently been ennobled by the King of Bavaria. One of his brothers is associated with him at Stein; the youngest of the three, Eberhard Faber, represents the firm at New York. Stein is literally a town of pencil factories, of which Baron Faber is the ruler, taking care of the health, government, education, industry, thrift, and amusements of the inhabitants, and always living in their midst. Alibert, a Frenchman, in Asiatic Siberia, having heard of the gold discoveries in California, began to examine the sandy beds of various rivers flowing into the Arctic ocean. After years of costly labor, Alibert found an exhaustless deposit of graphite, equal to the best ever taken from Cumberland. With the consent of the Russian Government, Alibert now supplies Faber's house, exclusive, with graphite from the mine in Asiatic Siberia. Pencils of this material were first made by Baron Faber in 1861, and to-day, in every quarter of the globe, their superiority is conceded by all.—*Exchange.*

COTTON STATISTICS.—Some highly interesting information in relation to the production and manufacture of cotton in this country, is contained in the recently published report of the National Association of Cotton Manufacturers and Planters. At the present time it appears that the number of cotton mills in the Northern States is 664, running 6,359,020 spindles, and consuming annually 385,952,021 pounds of raw material. In the Southern States there are but 86 mills, running 225,063 spindles and consuming annually 31,415,750 pounds. Compared with the number of mills in operation in the year 1860, there are some one hundred fewer running now than then. During last year the total consumption of cotton for manufacturing purposes was 450,000,000 pounds. At the usual estimate of four hundred pounds to the bale, 1,125,000 bales were consumed or about one-half the whole production of the United States. The aggregate consumption during 1868, in Europe and America combined, was 2,094,105,000 pounds, against 1,976,520,000 pounds in 1858; and 2,284,901,000 pounds in 1859. Since the first of January of the present year, the receipts of cotton in the city of New Orleans have already exceeded the whole receipts of 1867 and 1868. Up to the first of September, 1868, in that city, 669,000 bales have been received; up to the first of March of the current year 671,000 bales have been received. The total receipts at all the Southern ports, however, since the beginning of the year, are estimated as about equal to those of last season; New Orleans running up her large amount by reason of the great success of the planters who cultivate cotton in the region adjacent to her port. Last season the cotton crop in the Mississippi Valley was very light, this year it is correspondingly heavy. Unless some untimely disaster befall, it is almost certain that the total yield of the Valley this season will reach 900,000 bales, which at average rates, will be worth in money, the large sum of \$90,000,000. It is estimated that the product of the whole South will exceed, in money value, \$200,000,000.—*New York Daily Bulletin.*

ARMOR-PLATE ROLLING AT THE ATLAS WORKS—ANOTHER DIFFICULTY OVERCOME—It has long been an object of desire on the part of the constructors of iron forts and ships to obtain armor-plates of great width for use as fort plates, as in narrow plates the hole required for the guns seriously weakens the structure. The desirableness of this was taken up very strongly by the Iron-plate Committee, and in their investigation into the means of constructing the strongest possible forts they urged on the manufacturers of armor plates the necessity of producing plates sufficiently wide to form the face of a fortification 8ft. 2in. in width. Formerly very few plates were made more than 5ft wide, and none we believe, have been made exceeding 6ft., in consequence of the practical difficulty, and indeed impossibility, as pointed out to the committee by one of our Sheffield manufacturers, of heating a mass of iron so wide as 8ft. in any one furnace without burning the edges in obtaining a welding heat in the middle. This difficulty has now been overcome by a plan patented by Mr. J. D. Ellis, of the Atlas Iron-works, which consists of rolling a pile of iron lengthways, until the width required is attained, and then while hot turning it round and rolling it crossways to the length required. The first plate made by this plan was rolled on Friday, at the Atlas Works, in the presence of Colonel Inglis, Captain Harrison, Captain Alderson and several gentlemen connected with the War Department, and was a complete success. The pile of iron from which this plate was rolled was 6ft. wide 7ft. long, and about 16in. thick, and was first rolled to 8ft. 6in. long, and then turned half round and rolled into a plate 8ft. 6in. wide, 16ft. long, and 5in. thick. This is certainly the widest plate of iron of anything like this thickness that has ever been rolled, and we are informed that, if required, by this plan much larger and thicker plates can easily be made. The rolls in which this plate was rolled are 11ft. long and 32in. in diameter, and have recently been put down by Messrs. John Brown and Company Limited, expressly for rolling wide plates.—*Sheffield (Eng.) Independent.*

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PROPOSALS WILL BE RECEIVED up to Saturday, May 1st, inclusive, for the GRADUATION, MASONRY and BALLASTING of the remaining 47 sections of this road, situated at intervals upon the 90 miles between Connellsville and Cumberland.

Specifications will be ready for distribution at the Pittsburgh and Cumberland offices on Friday, the 9th of April, and all information necessary to the proper examination of the work will be afforded by the Engineers upon the line.

By order of the President and Directors.

BENJ. H. LATROBE, Chief Engineer,

OFFICE PITTSBURGH & CONNELLSVILLE R. R. Co.,
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It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the long-end package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

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SIZE NO.	OF FORMS.	PRICES.	SIZE NO.	OF FORMS.	PRICES.
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2	96	40	12	96	42
3	144	46	13	144	48
4	192	54	14	192	57
5	256	62	15	252	65
6	320	70	16	320	75
7	400	80	17	400	85
8	500	90	18	480	95
9	600	100	19	600	110
10	720	115	20	700	120

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for Steam Vessels, in use

For Circulars and other information, address,

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48 Dey Street,
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VERY CHOICE

Oil Lands

IN

Kentucky & Tennessee,

FOR SALE BY

T. WRIGHTSON,

167 Walnut Street,

CINCINNATI

THROUGH —FROM— CINCINNATI TO NEW YORK

WITHOUT CHANGE OF
COACHES!

—VIA—

Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W. Railway, on Saturday Morning, by the 6:00 a.m. Lightning Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next day, Sunday

2 Through Lightning Express Trains for New York, Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6.15am.....	7.10pm
" Dayton.....	8.35 ".....	9.30 "
Arrive West Salem.....	1.50pm.....	4.53am
" Leavittsburg.....	4.55 ".....	7.35 "
" Meadville.....	7.35 ".....	11.10 "
" Susquehanna.....	7.48am.....	11.29pm
" Paterson.....	2.25pm.....	6.03am
" New York.....	8.15 ".....	7.00 "
" Boston.....	5.45am.....	4.45pm

Sleeping Coaches on Night Trains the entire distance between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday night instead of Saturday night. All other Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
At Mansfield with Pitts., Ft. Wayne
and Chicago Railroad.

THIS IS THE ONLY ROUTE TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely new, of the most modern, substantial, and approved description, unequalled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all Trains.

Ample time is allowed, at all hours,
for meals.

No effort will be spared by the Company to render a trip over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE CHECKS,

Apply in Cincinnati at New Depot of Cincinnati, Hamilton and Dayton Railway; or at northeast corner of Broadway and Front streets, and at No. 80 Fourth street, nearly opposite Post Office. Also at any of the principal Railroad and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. BUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1866, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a.m. and 8:00 p.m. On Sundays, one Express Train at 8:00 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change of cars to Chicago or Cincinnati, and but two to St. Louis. Passengers front to East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m., Pittsburg 12 light

9:00 a.m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 8:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN, from the West, leaving Pittsburg at 4:30 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at 7:09 a.m. Through cars from Pittsburg to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pittsburg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:52 a.m.; Allentown at 12:02 p.m.; Easton at 1:10 p.m. Through cars from Pittsburg to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing Reading at 10:40 a.m.; Allentown 12:20 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

2:10 p.m.—FAST MAIL, from the West, leaving Pittsburg at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 10:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7.00 A. M.	9.10 A. M.
Springfield & St. Joseph Ex.....	12.00 P. M.	4.30 P. M.
St. Louis & Chicago Ex.....	4.55 P. M.	12.15 A. M.

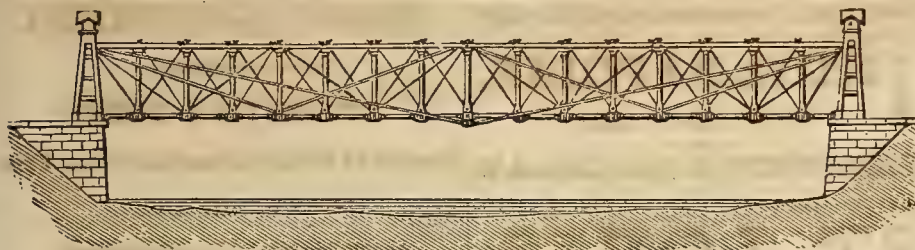
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5.15 P. M.	5.05 A. M.
Harrison Accommodation.....	10.10 A. M.	2.25 P. M.

Through Tickets can be obtained at the Burnet House, Spencer House and Gibson House Offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1392.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers, and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pairs of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunity of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings; every description of Copper, Sheet Iron and Boiler Work; and every article pertaining to the repair and renewal of Locomotive Engines.

KNOX & SHAIN,
ENGINEERING & TELEGRAPHIC
INSTRUMENT MAKERS
Philadelphia, Pa.

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Bank Note Engravers & Printers.

Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
S. E. Cor Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads, still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent,
myll Pittsburg, Pa.

CUMBERLAND COUNTY OIL LANDS,

NEAR

The Great Crocus Well,

WITH

Productive Wells all

around them.

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T. WRIGHTSON:

167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

—IN—

Railroad, Car and Machine Shop

SUPPLIES,

—AN—

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

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350 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.

Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,
Chilled Railroad Car Wheel, Ty
—AND—
Railroad Machine Works,
WILMINGTON, DELAWARE,
MANUFACTURE

Chilled Wheels and Tyres

FOR
Railroad Cars
and
Locomotive Engines.

ORDERS executed promptly to tent for the celebrated Wheels, either single or double plat with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner; the shortest notice, and on the most reasonable

PASSENGERS

Purchasing Tickets via

Baltimore & Ohio R.R.

—TO—

BALTIMORE,**PHILADELPHIA,****NEW YORK, and****BOSTON,**

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON

Fare to Washington City same as to Baltimore.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
N. O. W. BROWN, General Passenger Agent. } Dec. '67.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Burnett House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.**JANUARY 5th, 1868.****Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph Jefferson City, and all points on the Lower Mississippi River, and on the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cincinnati,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine Street; Corner Front and Broadway; and at Depot, Pool Mill Street.

C. E. FOLLET Gen. Passenger Agent
J. W. CNLOQUE, General Superintendent.**Best Route to St. Louis and Chicago**

INDIANAPOLIS, CINCINNATI —AND— LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS, CAIRO, CHICAGO,

Memphis, New Orleans, Springfield, Quincy Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West, North west and South-west.

5 THROUGH TRAINS DAILY,

(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express...	7.00 am	10.50 pm
Indianapolis and Cairo Express.....	6.30 am	2.30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express, Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago.

Elegant Sleeping Cars on all night trains.

ACCOMMODATION TRAINS.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.10 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.00 pm

Through Tickets can be obtained at the Burnett House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl Streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.**MOSELEY'S WROUGHT IRON ARCH****BRIDGES,**

AND

CORRUGATED IRON ROOFS

[ARCHED AND FLAT.]



CORRUGATED SHEETS, OF ALL SIZES, CONSTANTLY ON HAND, PAINTED, AND READY FOR SHIPMENT, WITH INSTRUCTIONS FOR APPLYING THEM.

MOSELEY & CO.
Boston, Mass.**EDWIN J. HORNER,**

Successor to

McDANIEL & HORNER,

**Locomotive and Railroad****CAR SPRING MANUFACTURER,**

Wilmington, N. Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn**JOHN A. WRIGHT, Sup't.**

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works June 29

THE SCHENECTADY LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.,

Continues to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING LOCOMOTIVE ENGINES

AND OTHER

Railroad Machinery, Tires, etc.

—AND ALSO TO—

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding the work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.**PASCAL IRON WORKS.**

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas, Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1½ to 24 inches in diameter, and branches for same, &c., Gas Works Castings, etc., etc.

PHILADELPHIA.STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. P. M. TASKER
HY. G. MORRIS.**Philadelphia, Wilmington & Baltimore****RAILROAD!!****FOUR PASSENGER TRAINS DAILY**TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY
4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.On Sundays, 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)SUNDAY TRAINS—Leave Philadelphia for Baltimore at Washington at 4.15 A. M., and 11.00 P. M. Leave Baltimore for Philadelphia at 8.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD, }
T. WRIGHTSON. } Editors

CINCINNATI:
THURSDAY, APRIL 15, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street.
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 1 00
" " " per month.....	3 00
" " " six months.....	12 00
" " " per annum.....	20 00
" column, single insertion.....	5 00
" " " per month.....	10 00
" " " six months.....	40 00
" " " per annum.....	80 00
" page, single insertion.....	75 00
" " " per month.....	25 00
" " " six months.....	110 00
" " " per annum.....	200 00

Cards not exceeding four lines, \$5.00 per annum.

WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

LITTLE MIAMI.		
	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	
Columbus Accommodation.....	3:55 P. M.	10:35 A. M.
Morrow Accommodation.....	5:10 P. M.	8:00 A. M.
Lightning Express.....	8:30 P. M.	10:40 P. M.
Night Express.....		7:20 A. M.
MARIETTA AND CINCINNATI.		
Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillsboro Accommodation.....	3:45 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:50 A. M.
CINCINNATI, HAMILTON AND DAYTON.		
Eastern Express (A. & G. W.).....	7:00 A. M.	7:00 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Toledo, Detroit & Canada.....	7:10 A. M.	10:45 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Lima, Ft. Wayne & Chicago.....	7:10 A. M.	10:45 P. M.
do do do.....	2:30 P. M.	5:10 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Sandusky, Cleveland & Buffalo.....	7:10 A. M.	7:00 P. M.
do do do.....	5:45 P. M.	10:25 A. M.
Connersville & Indianapolis.....	7:10 A. M.	10:45 P. M.
do do do.....	2:30 P. M.	5:10 P. M.
do do do.....	5:00 P. M.	10:45 A. M.
Hamilton, Eaton & Richmond.....	7:10 A. M.	10:45 P. M.
do do do.....	5:00 P. M.	10:25 A. M.
Hamilton Accommodation.....		8:05 A. M.
do do do.....		6:50 A. M.
CINCINNATI AND INDIANAPOLIS JUNCTION		
Connersville, Rushville and Indianapolis Mail.....	7:00 A. M.	10:45 P. M.
St. Louis, Indianapolis & Connersville & Rushville Express.....	9:30 P. M.	5:10 P. M.
Cambridge City and New Castle.....	7:00 A. M.	10:45 A. M.
Cambridge City and New Castle, Express.....	5:00 P. M.	10:45 A. M.
CINCINNATI, SANDUSKY & CLEVELAND.		
Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.
CINCINNATI, COLUMBUS & CLEVELAND.		
Lightning Express.....	7:00 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	7:20 P. M.
New York Express.....	8:00 P. M.	10:40 P. M.
INDIANAPOLIS, CINCINNATI AND LAFAYETTE.		
St. Louis & Cairo Express.....	6:30 A. M.	6:30 A. M.
Springfield Express.....	3:00 P. M.	4:20 P. M.
St. Louis Express.....	11:00 P. M.	1:10 A. M.
Lawrenceburg Accommodation.....	10:20 A. M.	2:35 P. M.
do do do.....	4:30 P. M.	8:30 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	4:20 P. M.
VIA WHITE-WATER VALLEY.		
Chicago & Cambridge City Express.....	7:00 A. M.	10:35 A. M.
Harrison Accommodation.....	5:00 P. M.	7:37 A. M.
Chicago Night Express.....	9:00 P. M.	10:2 P. M.
OHIO AND MISSISSIPPI.		
St. Louis, Cairo & Louisville (Sundays excepted).....	7:50 A. M.	12:10 A. M.
Louisville Special Train (Sundays excepted).....	4:25 P. M.	11:45 A. M.
Louisville, St. Louis & Cairo Daily Express.....	7:10 P. M.	6:00 A. M.
ATLANTIC AND GREAT WESTERN RAILWAY.		
Lightning Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	7:10 P. M.	7:00 A. M.
KENTUCKY CENTRAL.		
Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

Our Wise Legislature.

The Lower House of our Legislature after considering the question of an amendment to the Constitution, so as to enable cities &c., to aid in the construction of railroads, defeated the bill that had so triumphantly passed the Senate, and blasted the hopes of many of our enterprising citizens who daily feel how much we are in need of this or some similar measure.

In a review of the proceedings before the House, we are unable to find a single sound argument, or even a plausible one advanced against the principles of the bill, and what is perhaps more remarkable, the greatest opposition came from the members who represent the only sections of the State that are without railroads, and whose constituents have been struggling for years to construct such works.

We know that enterprises of great merit, and that have received large local support, are now languishing for just such aid as this bill proposed, and that the people are not only willing, but anxious to secure means for their completion from parties who have large interests in the result, but who are unwilling to make personal contributions. It was to meet such cases the measure was proposed, and as it was to be submitted to the people, first, to determine whether the constitutional change should be made, and, second, whether the aid suggested should be granted, and to what extent; we can see no reason whatever for the conduct of these overweening, sensitive members, except a contracted view of the wants of the people, and a paucity of intelligence upon the great advantages of such improvements.

The experience of the whole country condemns the legal shackling of the people so as to prevent localities from assuming such responsibilities, and carrying into effect such measures as their prosperity demands. It is found that all the disadvantages of excessive obligations are better than this enforced inaction, and States that have hitherto been laboring under such embarrassments are now quick to remove them, and leave the local organizations free to direct their own affairs. Who is to interfere if Cincinnati is willing to assume a great responsibility for the construction of the Southern road, a project long considered, and upon which the future welfare of the city is believed to depend? Why should an individual community be crippled in its efforts to live, more than an individual member thereof? And above all things why should members of other constituencies be allowed to direct what we shall or shall not do in such matters?

Wholesome regulations would be enacted to prevent the encroachment of the majority upon the property of the minority interest; and a fair expression of the smallest operative community to be effected thereby would

be provided for; this done, legislative interference should end.

If Ohio expects to prosper and keep pace with her sister States, other and wiser men must direct her affairs than those now in the management at Columbus.

Erie Movements.

Since our last issue the Erie has moved with the strength of a giant, and with the subtlety and boldness that has characterized its operations under the Fisk and Gould management.

The first move upon the board was to secure a means of entrance for its immense freight, which was had by way of the C., C. & C. and L. M. roads. The next to secure a withdrawal from the C., H. & D. of the business of the O. & M., and a transfer to the L. M. road.

These moves drew away from the C., H. & D. at both ends, and so lessened the business upon that hitherto crowded thoroughfare as to make one track quite ample and room to spare.

The business of the Erie thus going regularly on, the next move was an old and heretofore successful one—that is, the announcement for proposals to build a new road from Dayton to Cincinnati via the "Short Line" route. And, as though this was not enough, the C., H. & D. is threatened with a suit for a million of dollars of damages to the Erie, that must prove costly and very injurious to the C., H. & D. Company, let the result be what it may.

Thus stands the war at this writing. What the next move will be, or what new aspect it will place upon things no outsider seems to know. There are so many feints and counter-moves in a conflict of this sort, that the plan of the campaign is very difficult to decipher in the early stages of it, but we feel secure in hazarding this opinion; that either the C., H. & D. will come to terms, or it will find itself despoiled of its business, its stock reduced to the speculative point, and perhaps a rival created that will strike away forever its prestige as a commanding line to this city.

A prominent officer of the C., H. & D. Co., urging certain of the stockholders to vote for the lease to the Erie, struck the key to our position when he said: "The O. & M. and the Erie are the great broad gauge interests of this country; each is necessary to the other; but sixty miles separates them; this must be overcome, either by the merging of the C., H. & D. road into their interests, or the construction of the Short Line. Nothing can prevent their uniting. If the first is taken, the C., H. & D. stock receives a permanent par value; if our short sightedness forces upon them the second, C., H. & D. stock is as permanently reduced to fifty cents on the dollar."

This, we believe, is true, and not a whit the

less so now than when it was uttered. Of the pecuniary capacity of the Erie to carry out these measures, we give no opinion. But it is too notorious to call in question that it has shown a power to hold the great moneyed kings of Wall street in check, to bear down thus far every interest that antagonized it, to make enormous purchases of property, to subsidize the press, bribe Legislatures and Courts, and sway the material interests in its way about as it pleased. This is sufficient to warrant the supposition that if it takes the initiative in a conflict, it will be provided with the sinews of war, and that however feeble the ignorant public may claim it to be, there is a latent strength some where at easy command.

Doubtless the public will be served best by the construction of the new road. It is a line well known and of great merit, and under the thorough management of the Erie will receive large local support towards both its construction and operating. No one understands this better than the C. H. & D. Company, and no one can afford to sacrifice as much to prevent it. Yet this company may be so infatuated with the delusion that this is only a strong game of bluff, and that the Erie sounds an empty treasury, that they will sleep upon their opportunity and bring upon themselves the ruinous discount predicted some time since by their own officials, as the inevitable result of such a condition of things.

A New Water Wheel.

In the use of water for mechanical power two essential points are to be considered.

1. The greatest amount of power to be obtained.

2. The largest economy in the use of water and of power.

To secure these much of the genius of the country has been devoted, and innumerable inventions and devices in water wheels have been presented, many of which have served a good purpose, and in the main have been partially correct in principle. Yet every worker in machinery of this sort has felt the imperfections of the water wheels now in use, and many of them have sought a remedy by new inventions and combinations.

The latest effort of this sort is that of E. W. McGuire, of Eaton, Ohio, who has secured Letters Patent for what he calls the "Hydrostatic Wheel," that seems to possess the long sought principles already spoken of.

Like all final inventions, this wheel is a wonderful simplification of all others. The attempt to secure these desirable qualities by additions and complications that not only negative by their weight and friction the principles sought, but add so largely to the cost and application, is in this new wheel set aside, and a simple casting, so placed as to be acted upon solely by the impulse of the

water, in a manner that secures the largest power with the greatest economy of supply. It is not easy to describe this wheel, simple as it is, and perhaps the following will not be clear to any one, except mechanics in that line. A glance at the little model before us, however, would explain the whole thing, and we think convince the most skeptical:

The wheel proper is a single casting, with buckets curving from the center to the circumference, and of a size to suit the demand. The addition is a cast plate with transverse openings for the escape of the water, and so arranged as to form circuitous jets. Over this plate is placed the wheel, with buckets over the jet valves. The water passing down a penstock under this plate or secretary, will, according to the head and volume, force, with great power, these jets against the curved buckets, striking them first near the center, and, as the wheel revolves, throwing their full power near the rim, thus giving an increasing force and driving the wheel with great velocity. Indeed, it may be said to be acted upon by percussion, from the compound power of gravity and velocity of water, and, as the water passes away immediately after it strikes the buckets, there is no plunging or wallowing of the wheel, by which its momentum is in any way retarded.

It is effected in precisely the same way by little or much water, using only what is actually measured for its consumption. The power of this arrangement will be better appreciated when we learn that a column of water ten feet high at rest, for each cubic foot at the bottom of the column, exercises a pressure of 625 pounds. The velocity of water under such a pressure would be 25 36-100 cubic feet per second. The whole column would give a pressure of 15,850 pounds per second, or 951,000 pounds of impulse per minute. Now, if this power is cast upon one of these wheels (in the manner given) say six feet in diameter, there will be exercised upon it the enormous force 570,000 pounds per second, or 1,710 tons per minute. From this data the computation can be readily made for any head and for any sized wheel.

In comparing tables exhibiting the power and velocity of this wheel, made from the foregoing facts, with those giving the power and velocity of the turbine wheels now generally in use, that discharge the water in a vacuum at the center, we find a very large per centum in favor of the "Hydrostatic Wheel," and this is fully confirmed by the experiments thus far made with this improvement. If, therefore, the practical test, soon to be made, should establish the superiority of this new wheel over the older ones, as we feel certain it will, a great revolution will be rapidly wrought in this important matter.

Increased power, with simplicity, ease of application, durability and cheapness, will command the great manufacturing interests of the whole country.

Illinois Central Railroad.

The President, in his report, gives the following summary of operations for the year 1868:

"The gross earnings of this railway for the year 1868 amount to \$7,817,629 24, the operation expenses to \$4,590,681 91, State taxes to \$441,597 57, and rent of leased line in Iowa to \$370,365 18, leaving net \$2,414,984 58, against \$2,480,567 72 in 1867. The per centage of expenses to earnings, including State taxes, is 64 37-100, against 65 6-10 in 1867.

"These figures include earnings over leased lines in Iowa, which amount to \$1,019,698 72; operation expenses, \$515,895 60; State taxes, \$13,200 09, and rent \$370 365 18, leaving a net profit of \$127,076 79, after making liberal expenditures in improvements.

"The tonnage hauled in 1868 was 1,439,675 tons, against 1,300,835 tons in 1867; the average distance each ton was hauled being 203 miles in 1868 against 131 miles in 1867.

During the past year the amount paid for dividends, including government tax, was \$2,461,568 42, being at the rate of 10 per cent on the capital stock; in addition to which stock was distributed to the stockholders in August last, at the rate of eight per cent on the share capital, in accordance with a resolution passed at the last annual meeting of shareholders. The amount paid for interest on funded debt and sterling exchange was \$755,716 92; and after paying State taxes; rent of leased line and all other claims upon the operations of the year, we had a balance on the first day of January, of net cash assets, amounting to \$2,012,927 83, out of which a cash dividend of five per cent was paid during the present month. The stock of working supplies, inventoried at cost, amounts to \$844,139 29. The funded debt was reduced \$1,167,000, and amounted, on the 1st January, to \$9,377,500.

"In the land department the collections amount to \$3 200,289 21, on account of old and new sales, of which \$2,070,431 31 is applicable to the cancellation of construction bonds, \$558,140 61 to Free Land fund, and \$407,925 56 to Interest fund. The expenses for the year were \$143,709 39. There were surrendered to the trustees during the year \$1,832,500 of construction bonds, at a cost of \$2,070,725 against the collections on that account. The amount of bonds now in their hands, in advance of deeds issued, is \$4,423,819, of which \$3,173,000 is in advance of collections. The sales were 207,008 37-100 acres to 2,776 purchasers, for \$2,228,325 90, averaging \$10 76 per acre. The total number of deeds issued up to the close of the year covered 1,124,446 86 100 acres of the original grant. The amount owing to the company for lands is \$6,123,087 59. On most of the obligations for lands one or more payments have been made. This facilitates future collections, and I expect the receipts of the department during the present will be equal to those of the preceding year. There still remain unsold 526,690 46-100 acres of land, to which may be added about 96,504 acres (old sales) subject to cancellation. Of the lands sold during the past year 115,496 were located on the Chicago Branch, between Champaign and Kankakee.

—The railroads of Ohio, 3,215 miles in length, earned last year, \$27,047,075 gross, or \$8,151,440 net—and all this within the State.

Cheap Freights.

The Ability of Railroads to Compete with Water Transportation—Important Report from John H. Moore, Esq., to the Superintendent of the Pittsburgh, Fort Wayne & Chicago Railroad.

DEAR SIR: Referring to your expressed desire to furnish cheaper transportation for the products of the West to Eastern markets, and the request for my views on the subject, I would state that I have been for many years impressed with the idea that the railroad companies between Chicago and the Atlantic cities would, with a developed country, see their way clear for remunerating dividends at reduced rates for the transportation of passengers and freights of all kinds. The lakes, rivers and canals are now considered the avenues for cheap transportation, and railroads the most expensive routes for all kinds of transit movements. The great question to be solved by railroad companies, as it appears to me, is the one of rates to compete successfully with water carriage between Chicago and New York and other Eastern cities. When the railroads can transport the staple articles of the country to market, the year round, at about the same rate per ton as the average season rates by water, from the interior to the Atlantic cities, the rail will have the preference. By referring to the Chicago Board of Trade report for the year ending with March 31, 1868, we find that the average lake tariff on wheat for the year was 8½ cents per bushel; on corn, 6 1/100 cents per bushel, and oats at 5 cents per bushel. If we add to these rates insurance, commissions and warehouse charges in Buffalo, and canal tolls and freights, we have a cost per bushel, on the average, of about 24 cents from Chicago to New York. The total tonnage of the following articles shipped from Chicago during the year ending as above, being, with the exception of lead, the products of agriculture, was 1,691,136 tons, equal to 140,928 car loads of 12 tons each. Of this tonnage, 1,117,512 tons was shipped from this city by water carriage. Nine hundred and sixty-four vessels, of an average tonnage of 212½ tons each, were employed during the year in all kinds of freight transportation to and from this city. Many were employed exclusively in the lumber trade. The tonnage referred to consisted of:

Tons.		Carloads of 12 tons each, shipped by
Wheat.....	294,900	
Corn.....	747,252	
Oats.....	102,523	
Rye.....	31,000	
Barley.....	30,393	
Total.....		
Seeds, lbs.....	6,336,900	
Cattle, No.....	293,561	
Live and Dressed Hogs.....	1,033,118	
Butter, lbs.....	2,604,177	
Hides, lbs.....	27,739,099	
Highwines, brls.....	34,070	
Lead lbs.....	4,102,074	
Beef, brls.....	83,248	
Tallow, lbs.....	7,165,927	
Lard, lbs.....	27,034,529	
Pork, brls.....	134,849	
Cut Meats, lbs.....	62,322,540	
Wool, lbs.....	11,293,500	
Sheep, No.....	51,616	
Total car loads.....		

The water rates to Buffalo during the season, were as follows (average): Wheat, 14 cents per 100 lbs; corn, 10 8-10 cents per 100 lbs; oats, 15 cents per 100 lbs. Canal rates from Buffalo are estimated at 23 3-10 cents per 100 lbs, making a total average rate from Chicago to New York, via lakes and canal,

including 3 cents for insurance, warehouse commissions and transfer at Buffalo, of 40 cents per 100 lbs.

I think the above transportation may be arranged and carried by rail in three classes, at \$7, and \$9 per ton for six months of the year, and during the suspension of navigation at \$9, \$10 and \$11 per ton; averaging \$9 per ton throughout the year. This applied to the above tonnage, would give a gross income of \$15,220,224 from this city, and estimating the west-bound freights to produce an equal income, we have the gross amount of earnings, from business to and from Chicago of \$30,440,448.

During the year 1867, there were 396,313 tons of coal brought to this city by vessels. This, together with building stone, pig iron and other coarse and heavy freights, may be brought here by rail, in full trains, from the interior of Ohio and Pennsylvania, at *pro rata* per mile of the above rates, or per mile of the above rates, or perhaps at 1½ cents per ton per mile, which will turn all of this transportation, from that section of the country, on to the railroads, as it appears to me, loading the return trains at remunerative rates. The increasing consumption of coal in this city is 100,000 tons annually. Thus it will be seen that full trains carrying all of the products above enumerated, in the year ending, as above stated, our road would have earned, assuming the fact that one-third of the business of the year was, and would have been, done by our line, at *pro rata* divisions, \$5,377,812; to this add local receipts, \$1,695,507, which gives us a total of \$7,073,319 as the gross freight earnings for that year. If the entire lake trade, as above shown, with an equal amount of tonnage west-bound, had been carried by rail, our full proportion would have averaged 179 tons per train per mile, earning \$1.08 per mile per train more than the earnings per mile per train, of freight, during the year 1867. If we deduct 54 cents per mile as the cost of transporting this additional tonnage in the same trains that were run, we show a net increase of earnings per train per mile of 54 cents, making a total net additional income for the year of \$1,739,602.44.

To successfully work a railroad, where the tonnage is very large, it should be provided with a double track for freight trains, and another for passenger trains, and the freight should be worked at a slow rate of speed—say six or eight miles an hour, with engines especially adapted to such speed. Under an organization of this kind a single line between Chicago and New York would transport more than five times the railroad and lake tonnage for the year under consideration. The trains can be safely worked within fifteen minutes of each other, giving ninety-six trains a day from Chicago, of 300 tons each for 300 days in the year, total 8,640,000 tons. This traffic at \$9 per ton, on the average, will amount to \$77,760,000, and estimating west-bound receipts the same, we have a total income, from a single line, of \$155,520,000, of which our company would be entitled to \$80,870,400. To economically transport this immense tonnage 30,000 freight cars, at a speed of eight miles the hour, and 35,000, at six miles the hour, and 3,000 locomotive engines, would be required. The receipts per train per mile would average \$3 from Chicago to New York via Pittsburgh. These items of tonnage and earnings multiplied by four, the number of railroad lines from this city to New York, Philadelphia and Baltimore, give an aggregate of 96,120,000 tons, counting both east and west tonnage producing an income

annually of \$522,080,000. All this I mention to show that railroad lines may be worked, where the tonnage is large, so as to entirely supersede water carriage when lakes, canals and rivers must be used between the termini of a long route; and that the capacity of a single line of railway is equal, if not superior, to that of five canals, in this latitude, as the speed of the train would be three times that of canal-boat movement during the season of navigation, with the five months' winter tonnage in favor of the all-rail lines.

Respectfully submitted by yours truly,

J. H. Moore,

Commercial and General Agent.

Memphis and Its Railroads.

Memphis, whose growth before the war rivalled that of Chicago, and which in energy and enterprise has hardly a rival among Southern cities, is now earnestly endeavoring to secure the construction of three new railroads, the Memphis and Selma, which will give it a direct connection with Central Alabama and an outlet to the Atlantic coast at Savannah; the Yazoo Valley Railroad, which would drain the wide expanse of bottom land between the Yazoo and Mississippi, a tract hardly excelled in fertility on the globe, and capable of producing half as much cotton as is now produced by the whole United States; and the Mississippi Valley Railroad, which is to extend from New Orleans, close to the left bank of the Mississippi, to Cairo, or possibly to Paducah, and will in many places prove more valuable as an embankment to protect the bottom lands back of it than as a railroad to transport its products, for it would have to compete with the Mississippi steamboats throughout its whole extent. Memphis has now three railroads: The Mississippi and Tennessee, running southwest to Grenada, 99 miles, where it connects with the Mississippi Central to New Orleans; the Memphis and Charleston, to Chattanooga, with numerous connections; and the Memphis & Ohio, operated by the Louisville & Nashville, which is its chief northern connection. As yet it has no railroad connections with the country west of the Mississippi, where it should find an unlimited field for enterprise; but it soon will have a railroad to Little Rock, by the completion of the line from Memphis to Duval's Bluff, on White River, the present eastern terminus of the Memphis and Little Rock Railroad. Memphis, though a river town, has few peculiar advantages as a river town. Its railroads have given it facilities for trade, and it is by increasing its railroad connections that it will increase its commerce. On the Mississippi it is a way station. As the terminus of a dozen radiating railroads it may be a great receiving and distributing depot.

—R. R. Gazette

—The President, April 6, signed a bill providing for the construction of a bridge across the Ohio river at Paducah. It gives the consent of Congress to the erection of a railroad bridge over the Ohio river from the city of Paducah, Kentucky, to the State of Illinois, by the Paducah & Gulf Railroad Company, and such others as may associate with them for that purpose under the laws of the States of Kentucky and Illinois. The bridge is to be built with an unbroken or continuous span of not less than 400 feet in the clear, from pier to pier, over the main channel of the river, and in all other respects in accordance with the conditions and limitations of an act entitled "An act to establish certain post roads," approved July 14th, 1862.

American Rails.

Mr. C. P. Sandburg, whose paper "On the Manufacture and Wear of Rails," just published in this *Journal*, excited such a prolonged discussion at the Institution of Civil Engineers last session, has addressed a letter to the *Times* condemning the system of ordering rails followed by the American railways. Our space will not permit us to publish Mr. Sandberg's letter *in extenso*, but we subjoin an abridgement which will be read with interest. Mr. Sandberg's remarks are very just and well deserving of attention. He says:

"The term 'American rails' has become a synonym for the cheapest and least durable rails manufactured. They are usually about ten shillings per ton cheaper than the ordinary rails made for English and Continental companies. In the case of American rails, the quality of the material and the construction of the rail pile are left entirely to the manufacturer, the rails not being made according to any specification; and hence there is not the slightest guarantee that a good, serviceable or safe rail will be obtained; the one great desideratum being, apparently, that the price be low. Hence, the maker's chief study is naturally enough to produce the cheapest possible article, and to devise means of manufacturing at a low price what is, to all appearances, a clean looking rail. To do this, he carefully studies the character of his iron, and so manipulates it as to obtain a well finished and saleable rail, regardless of its brittleness—so long, indeed, as it does not break previously to delivery and payment—and indifferent whether it is likely to last one year or ten. Fortunately for him, the section for American rails is one very easy to roll—low, heavy and without angles—so that almost any quality of iron and any construction of pile will not interfere with the one object he has in view. When, however, the iron is very red-short (or liable, through the pressure of sulphur, to crack in rolling) a top-slab of a better class of iron (No. 2) must be used in the pile to serve as the wearing surface of the rail. This wearing surface may, however, vary considerably in thickness, forming either the entire head of the rail or only a portion more or less thick. Even when the iron is not red-short, the pile is often composed of puddled bars only, and rolled out into rails at the lowest possible heat, so as to economize iron and fuel, but regardless of insuring a perfect weld; and hence, lamination and failure rapidly follow after a few months' wear.

"So much for the durability of the ordinary American rail. Now as regards its safety. Just as the presence of sulphur in iron renders the metal red-short, as previously explained, so the presence of phosphorus causes the iron to become brittle and cold-short. It is not, therefore, of great importance in producing a good and serviceable rail from such inferior materials, that the hard, cold-short iron should form the top or wearing portion of the rail, while the red short, or tough and fibrous iron, should be used for the flange. As the character of the ores distributed through the principal rail-making districts of this country is such that cold-short iron is produced in one district and red-short in another, it is necessary that the two kinds of metal should be brought together and used in association, as previously described, if they are to produce a truly serviceable rail. But

as the cost of transport from one district to another becomes an important item, it will evidently be to the interest of the manufacturer, if not restricted, to use the unmixed home material, whether cold-short or red-short. Under such circumstances a rail is produced either too brittle, and, therefore, dangerous, or too pliable, and, therefore, less capable of enduring the wear and tear of traffic. There are, perhaps, few countries that of late have suffered more from fracture of rails than America. This has led some railway administrations in that country to require that the rails should be tested; but whereas they were formerly too careless in this respect, they now seem inclined to err on the other side by specifying too severe a test for the rail, and thus compelling the maker to use too soft an iron. For instance, it is often required that a weight of one ton should fall upon the rail from a height of 10 feet, when half such a test would insure breakage of the rail in any climate. I may now briefly refer to the method adopted in making rails for the English and Continental companies. There are but few of these railway administrations which, when inviting tenders for a supply of rail, do not specify distinctly that the top slab, constituting the wearing surface of the rail, must be of the very best material, and at least 2 inches in thickness, thus giving a wearing surface of $\frac{1}{2}$ inch in the head of the rail; and, further, that the rail should stand a test half as severe as that previously mentioned as applied to American rails. From what has now been advanced respecting the different modes of manufacturing American and European rails, I leave the respective American railway administrations to judge whether they would not best consult their own interests by adopting the English and Continental system of well defined specification and tests, instead of looking merely to the small saving effected by always accepting the lowest tender."

The Union Pacific Railroad track is now 25 miles west of Ogden, or 1,657 miles west of Omaha. The Central Pacific Railroad is 70 miles west of Humboldt Wells, and 75 miles west of Monument Point. The Union Pacific Railroad is 51 miles east of Monument Point, and the grading is completed to that point. Tracks will meet near that point. The gap is now 126 miles, and can be completed in thirty more working days.

The Fall River line of steamers has finally fallen into the hands of Mr. James Fisk, Jr., who now virtually has a monopoly of the Sound business. The Norwich and Worcester line was leased some time since to the Boston, Hartford and Erie road, which works in unison with Mr. Fisk and the Erie Company. The Bristol line will be discontinued, and Fall River will be the terminus instead of Bristol, but the boats will stop at Newport. A Sunday line is to be established for the Summer months, as well as an early day line, leaving here at 2 P. M., and arriving in Boston at 11 P. M. The boats have been refitted, and are to be made attractive by something in the musical way, either a band or an Opera Bouffe Company. Mr. Fisk will find the steamboat business between New York and Boston a much more laudable and profitable enterprise than endeavoring to stop completion of a great national undertaking like that of the Union Pacific Railroad, which is destined to have so important a bearing upon the future commercial prosperity of New York city.

RAILROADS IN KANSAS—A writer in the *Kansas State Journal* gives the following summary of the railroads of Kansas completed and in course of construction. He says:

We now have over 600 miles of railway built and in operation, and expect to complete 300 more the present season. First, we have the Kansas Pacific road, running the entire length of the State from east to west, a distance of 400 miles, coursing the productive valleys of the Kansas and Smoky Hill rivers, in the central portions of the State; the Leavenworth, Lawrence and Galveston road, bisecting the Kansas Pacific road at Lawrence, completed and in operation 65 miles, from Leavenworth to Ottawa, and nearly ready for the iron 25 miles further, to Garnett, the county seat of Anderson county; the Border Tier road completed from Kansas City to Olathe, and to be finished the present season, to the southern boundary of the State; the Atchison, Topeka and Santa Fe road under contract to Burlingame, in Osage county, the center of an exceedingly rich and productive coal district the Neosho Valley road, under contract and speedily to be completed and intersect with the Galveston road, in Southern Kansas; the Northern Tier road, under contract from Atchison to the northern boundary of the State; the Central Branch Pacific road, in running operation 100 miles west from Atchison.

THE ROUTE OF THE INTERCOLONIAL RAILWAY.—The new line will, on leaving Riviere du Loup, run from thence, by way of Trois Pistoles and the valley of the Metapedia, to a point some distance above the head of the Baie des Chaleurs, where it will cross the river Restigouche by a viaduct 1,050 feet long, and about 70 feet high. It will run by Dalhousie to Bathurst, still near the Baie des Chaleurs, and from thence it will strike across to Chatham, striking there the river Miramichi. It will then proceed at a distance of about twenty miles from the shore of the St. Lawrence until it strikes an existing line of railway from St. John to Shediac, in New Brunswick. From thence the new line will run through Dorchester to the boundary between New Brunswick and Nova Scotia, in the neighborhood of Amherst; and thence it will force a passage through the Cobegand Hills, in Nova Scotia, to Truro, where it will meet the Halifax and Truro Railway, a line already in operation. By this means it will be seen that trains will be enabled to run uninterruptedly from Riviere de Loup to Halifax.

A NEW COMPOUND RAIL has been invented and patented by Mr. J. H. Moore, General Agent of the Pittsburgh, Fort Wayne & Chicago Railway in this city. The rail is made in three parts, a cap rail of steel and two side pieces of iron. The cap rail is clasped by the upper extremities of the side rails, which are held together by iron ties—bolts bent down at each end and without heads or screws. The form of these rails is such that all downward pressure on the cap rail causes its tongue to be the more firmly clasped by the side rails, which hold it as in a vice. The whole length of the cap rail is so clasped and if it were broke vertically into sections two inches long, the track would remain unbroken. Three separate bars of iron must break at the same time in order to so injure the track as to throw off cars. It would seem that the use of such rails would put an end to all accidents occasioned by broken rails.—*R. R. Gazette.*

The Public Debt.

The following is an abstract statement of the Public Debt as it appeared on the books of the Treasury on April 1, compared with the preceding month:

DEBT BEARING COIN INTEREST.		March 1.
5 per cent bonds.....	\$221,589,300 00	
6 " 1881	283,677,400 00	
6 " (5 20's).....	1,601,587,350 00	
Total.....	\$2,107,854,050 00	

DEBT BEARING CURRENCY INTEREST.	
6 per cent. (R.R.) bonds...	\$53,937,000 00
3 per cent. certificates.....	57,140,000 00
Navy Pension Fund 3 per c.	14,000,000 00
Total.....	\$125,077,000 00

MATURED DEBT NOT PRESENTED FOR PAYMENT.

7 30 notes due August 15, 1867, June and July 15, 1868.....	\$1,816,350 00
6 per cent. compound interest notes matured June 10, July 15, Aug. 15, Oct. 15, Dec. 15, 1867, May 15, Aug. 1, Sept. 1 and 15, and Oct. 1 and 16, 1868.....	3,422,460 00
Bonds of Texas indemnity.....	256,000 00
Treasury notes (old).....	148,411 64
Bonds of April 15, 1842, Jan. 28, 1847, and Mar. 31, 1848.....	202,800 00
Treasury notes of March 3, 1863.....	375,432 00
Temporary loan.....	189,010 00
Certificates of indebtedness.....	12,000 00
Total.....	\$6,422,463 64

DEBT BEARING NO INTEREST.	
United States notes.....	\$356,021,073 00
Fractional currency.....	36,781,547 50
Gold certificates of deposit.....	28,775,560 00
Total.....	\$421,578,180 50

RECAPITULATION.	
Bearing coin interest.....	\$2,107,864,050 00
Bearing currency interest.....	125,077,000 00
Matured debt.....	6,422,463 64
Bearing no interest.....	421,578,180 50
Aggregate.....	\$2,660,931,694 14

COIN AND CURRENCY IN TREASURY.	
Coin.....	\$98,741,260 72
Currency.....	16,853,529 04
Total coin and currency.....	\$115,594,789 76

Debt, less coin and currency on hand.....	\$2,545,336,904 38
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DEBT BEARING COIN INTEREST.		April 1.
5 per cent. bonds.....	\$221,589,300 00	
6 " 1881	283,677,400 00	
6 " (5-20's).....	1,602,609,950 00	
Total.....	2,107,876,650 00	

DEBT BEARING CURRENCY INTEREST:	
6 per cent. (R.R.) bonds...	\$56,852,320 00
3 per cent. certificates.....	54,605,000 00
Navy Pension Fund 3 per c.	14,000,000 00
Total.....	\$125,457,320 00

MATURED DEBT NOT PRESENTED FOR PAYMENT.

7-30 notes due August 15, 1867, June and July 15, 1868.....	\$1,633,100 00
6 per cent. compound interest notes matured June 10, July 15, Aug. 15, Oct. 15, Dec. 15, 1867, May 15, Aug. 1, Sept. 1, and 15, and Oct. 1 and 16, 1868.....	3,220,690 00
Bonds of Texas indemnity.....	252,000 00
Treasury notes (old).....	148,011 64
Bonds of April 15, 1842, Jan. 28, 1847, and March 31, 1848.....	188,900 00
Treasury notes of March 3, 1863.....	360,192 00
Temporary loan.....	188,510 00
Certificates of indebtedness.....	12,000 00
Total.....	\$6,003,403 64

DEBT BEARING NO INTEREST.	
United States notes.....	\$356,065,155 00
Fractional currency.....	37,675,830 00
Gold certificates of deposit.....	21,672,500 00
Total.....	\$414,413,485 00

RECAPITULATION.	
Bearing coin interest.....	\$2,107,876,650 00
Bearing currency interest.....	125,457,820 00
Matured debt.....	6,003,403 64
Bearing no interest.....	414,413,485 00
Aggregate.....	\$2,653,750,858 64

COIN AND CURRENCY IN TREASURY.	
Coin.....	\$104,203,365 12
Currency.....	6,802,628 42
Total coin and currency...	\$111,005,993 54

Debt, less coin and currency on hand.....	\$2,542,744,855 40
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It appears that, notwithstanding a decrease of \$10,050,900 in the amount of currency on hand, an increase of nearly \$3,000,000 in the issue of Pacific Railroad bonds and the payment of the March interest, there has been a decrease of \$2,592,049 in the net total of the debt. There appears to have been some error in stating the amount of the currency balance at only \$6,802,628, against \$16,853,529 on March 1st. The Assistant-Treasurer at New York, states that on the 3d of March there was in his office alone nearly \$8,000,000 of currency, and in the Treasury at Washington and the other sub-treasuries there can not well have been less than \$2,000,000 more; so that we conclude that from some cause or other the currency balance is understated nearly \$4,000,000. The coin on hand is increased \$5,462,104, notwithstanding that \$7,103,069 of private coin deposits has been withdrawn, and nearly \$5,000,000 of coin interest paid out; so that it would appear the receipts for customs during March have been close upon \$17,000,000.

The following are the changes in the main details compared with March 1st:

Total net debt.....decrease.	\$2,592,009
Six per cent. Pacific R. R. bonds.....increase.	2,915,320
Three per cent. certifs.decrease.	2,535,000
Overdue debt.....decrease.	419,060
Fractional currency.....decrease.	105,717
Gold certificates.....decrease.	7,103,069
Coin on hand.....increase.	5,462,104
Currency on hand.....decrease.	10,050,900

The Secretary of the Treasury has changed the form of the monthly statement, giving the amount of each class of obligation outstanding and also the accrued interest. It appears that, on the 1st inst., there was a total of \$39,303,916 of interest accrued, of which \$37,559,330 was in coin, and the balance in currency.

British Commerce in Iron and Hardware.

The following which we extract from *Rylands Iron Trade Circular* of the 6th ult., will be interesting as giving a comparative view of the last three years of British commerce in iron and hardware:

If official statistics, tardily furnished by the Board of Trade, are of any value, we seem to have come to a halt in the rapid march to wealth and prosperity which the last quarter of a century has witnessed and the modifications in our tariff have mainly caused. So much we gather from the returns of the trade and navigation of the United Kingdom for the year 1868, just issued by the Department over which the Right Hon. John Bright has control. They fail, however, to supply the least particle of evidence as to whether this pause is likely to be permanent or transitory. In 1866 our imports, up to the end of November, were valued at £225,236,103; next year they had fallen to £208,526,055; and last year, somewhat recovering, they were valued at £217,520,365. Our exports have fallen off, and assuming the total declared value of imports really represented the value of imported articles consumed at home, and did not include much that entered our ports merely in consequence of our being a half-way warehouse, we should say that the diminished exports were the cause of the diminution in the imports. In 1866, our exports were declared to be of the value of £188,917,536; in 1867 they were declared to be of the value of £180,961,923; and in 1868 they had fallen to £179,463,644. These figures are not alarming, and next year's figures may tell a different tale; but, in conjunction with the revenue returns, they show that the national business, as it were, has for the time ceased to expand. The value of our exports of hardware and cutlery compared with 1866 is considerably less, and so is the total value of articles made of iron and unwrought steel. Yet it is a sign that our ironmasters are holding their own pretty fairly in departments where competition is strong, to find that they are increasing the amount and value of their exports in railway material; and, tariff notwithstanding, are increasing their sales in the United States. By some of those changes in demand which seem to the uninitiated the work of caprice, but only because they are uninitiated, the value of our exports in copper, and lead, and brass has fallen off, while that of our exports in tin, and zinc, and spelter has increased. Those who put faith in the predictions of the exhaustion of our coal mines, first uttered by Dr. Arnold, and subsequently repeated by Mr. Mill and Prof. Jevons, will find in the export tables a new proof that the end draws near: for they state that our exportation of coal is steadily increasing, and that it now stands at the figure of 10,837,513 tons. They will be bound, however, to observe also that several countries, such as India, France, and the United States—which ought not to consume our coals at all—are diminishing the drain upon us.

British Trade and Finances the Past Year.

The British Board of Trade returns for the past year contains some facts which are not without interest to the merchants, manufacturers, tax-payers and legislators of this country.

The declared value of British exports in 1868 amounted to \$1,184,460,050, against \$1,194,348,691 in 1867. The computed real value of imports in 1868 was \$1,647,465,593 against \$1,546,757,654, the previous year. The diminution in exports, between the two years, as will be seen was very trifling, while the imports exhibit considerable increase in 1868. These figures exhibit another important item, namely: the imports greatly exceed the exports, showing a balance of trade against Great Britain of \$463,005,543.

The value of wheat, flour, cotton, petroleum and wool imported is less than the previous year, but of wine, timber, silk, rice, guano, hemp, flax, barley and coffee considerably more. The report shows a diminution in the export of cotton piece goods to the extent of \$19,800,000; in linen piece goods, \$2,310,000; in woolen cloths, \$10,296,000. But worsted stuffs show an increase of \$5,940,000 and worsted yarns \$3,630,000.

There was imported of cotton from the United States during the year, 574,644,752 pounds, and from British India 403,706,640 pounds, and the whole import from all sources amounts to 1,328,034,016 pounds. The import of wheat from the United States the past year was 11,996,298 bushels; from Russia, 20,053,617 bushels; from Prussia, 9,169,484 bushels, and the total imports from all countries amounts to 68,279,536 bushels. The amount of flour imported from all sources was 1,732,100 barrels, of which only some 378,667 barrels were received from the United States.

The shipment of cotton piece goods to the United States the past year were 74,822,000 yards, against 114,744,971 yards in 1866; of cotton thread, 1,723,826 pounds; of hardware and cutlery, the value of \$1,690,524; of railroad iron, 268,151 tons, and 170,000 tons of all other irons; tin plates, 1,247,464 cwt; salt, 153,591 tons; silk, broad piece goods, 348,956 yards, against 674,344 yards in 1866; of woolen cloth of all kinds, 2,443,261 yards, against 5,154,208 yards in 1866; of carpets and druggets, 3,428,580 yards; worsted stuffs, 69,465,226 yards, against 50,431,896 yards in 1867, and 75,360,499 yards in 1866; of oil seed, 168,335 gallons, against 1,296,658 in 1867, and 2,330,697 gallons in 1866; of wrought copper, 2,756 cwt., against 3,643 cwt. in 1867, and 9,599 cwt. in 1866.

The export of goods to the United States in January last were largely in excess of those in the corresponding month last year, and in the main an active trade was carried on. Of the present stock of cotton in Liverpool 39 per cent is American, against nearly 57 per cent last year. Of Indian cotton the proportion is nearly 29 per cent against 8½ per cent last year. The whole amount on hand at the present time at Liverpool and London, is 761,633 bales, against 720,118 bales in 1867; and the sales from January 1 to March 6 were 765,190 bales, against 918,740 bales in the same period in 1868. March 19 it was estimated that the stock at sea bound for Liverpool was 363,000 bales, of which 169,000 bales were on the way from the United States.

The gross income and expenditure of

Great Britain for the fiscal year ending September 30th, 1868, according to an official return, were as follows: Income from customs, \$112,950,000; from excise, \$99,375,000; from stamps, \$46,250,000; from taxes (land and assessed), \$17,535,000; from property taxes, \$36,405,000; from the post office, \$22,950,000; from crown lands (net), \$1,735,000; from miscellaneous sources, \$14,337,805; making a total income of \$351,537,000. The ordinary expenditures were as follows: Interest on public debt bonds, \$123,478,659; charges on consolidated fund, \$9,302,373; supply service, \$219,108,702; making a total of \$360,884,934, ordinary expenditures, to which should be added \$4,025,000 for the construction of fortifications under special acts. The total expenditure therefore was \$364,909,934.

The Money Market.

We have frequently pointed out, in discussing the harassing monetary spasms of the last three years, the existence and rapid development of certain new forces which from time to time have begun to be active disturbers of the movement of the money market. Everybody knows that spasmodic stringency has never been so frequent as now in the money market of New York. We are at this moment in the midst of one of those severe spasms which, though it has begun to relax, has not yet passed off. From our report in another column it will be seen that borrowers are compelled to pay exorbitant rates from day to day, and how they can succeed in making such a use of loans as to compensate themselves is one of the wonders which can never be made clear to those who are not initiated into the mysteries of Wall street strategy. Waving these questions, however, many of our readers are inquiring how these spasms are produced, by what symptoms they may be foreseen, and what remedial measures are needful to prevent them.

It is clear that these troubles, like all others which invade and disturb the equilibrium of the money market must originate either in a deficiency of floating capital, of active currency, or of public confidence. The money market is disturbed either because there is not enough capital to lend, or else because the owners of that capital have not confidence enough to lend it, or, finally, because the currency, which is, so to speak, the locomotive machinery of loanable capital, is deranged and out of order. In which of these three directions shall we look for the cause of the present monetary spasm?

In the currency there has been no recent disturbance. In the state of public confidence there is no panic or general depression, such as would accompany the outbreak of a war or the discovery of some great financial catastrophe. We are left, therefore, to the inference, that the seat of the trouble is in the inadequacy of the supply of loanable capital.

Nor is this inadequacy greatly to be wondered at. Government bonds have absorbed an immense amount of the floating capital that used to be available for lending purposes. These government securities have now risen to higher rates than ever before. They require a consequent increase in the volume of the capital needful to manipulate and move them. Thus on the one side vast quantities of floating capital have become fixed capital, and on the other side the reservoir of floating

capital, although so much depleted, has more work to do than ever.

But this is not all. A vast amount of capital is investing itself in our great cities in real estate, which has risen in value considerably. Again, the South is beginning to swallow up large masses of loose capital which have heretofore been floating in the money markets of the North. Moreover, a multitude of railroad enterprises have been brought forward in Wall street, where many millions of railroad bonds have within a few months been put upon the market.

These facts, with others of the same kind, which are sufficiently familiar to our readers, serve to illustrate the nature of the trouble which is brought on the money market by the over-rapid conversion of floating capital into fixed capital.

In Great Britain and other countries, it has always been observed that whenever great amounts of floating capital invested themselves, and thus in the methods we have described, ceased to be floating capital, and in all such cases financial trouble has arisen, monetary spasms were frequent, and the loan market has been more or less disturbed. We need not therefore be surprised at our own monetary spasms, or seek to attribute them wholly to artificial causes.

A second principle may easily be proved from the facts around us. The loanable capital in Wall street is notoriously in few hands. A small number of opulent firms and corporations can thus control the money market at their pleasure, especially at certain critical periods of the year. It is natural that these persons, feeling their power, should be tempted to club their means together and to form cliques or speculative combinations for the accomplishment of various schemes.

Now this concentration of capital in a few hands is one of the invariable results of the rapid transition of floating capital into fixed forms. By legislation we can no more prevent it than we can control the apparent irregularities in the movements of the tides. There is, however, this consolation: in this country heretofore and in other countries always, such troubles have been of short duration. They have usually righted themselves after a short time. And at any rate the season of the year is approaching when for several months there is a concentration of capital in the great financial centers, and we can rely on a period of more or less protracted quietude and ease in the money market. Still the times are by no means favorable to over expansion of credits, or safe for persons of limited capital to extend their business beyond the bounds of their assured solid basis. Business is changing in York, and strong firms have failed who rode safely through the storms of 1836, 1857, and 1861. Men who would hold their ground and make their business a success have need for all their prudence and all their watchful care.

The receipts of the Western Union Railroad Company, for the week ending April 9:

	1869.	1868.	Increase.	Decrease.
Freight.....	\$4,261 54	\$5,514 57	.....	\$1,253 03
Passengers	3,454 30	3,363 80	\$494 50	.....
Express & Tel.	312 50	350 00	.....	37 50
Mail.....	375 00	375 00	.....	.....
Totals.....	\$8,607 34	\$9,603 37	\$494 50	\$1,290 53

Receipts from January 1, to April 9:

	1869.	1868.	Increase.	Decrease.
.....	\$147,554 95	.....
.....	\$135,919 41	.....
Increase.....	\$11,635 54	.....

The Hydroscope.

The hydroscope is an instrument recently invented in Great Britain, and intended to be used for the purpose of measuring the distance of an object from a coast battery, situated at least one hundred feet above the sea level. The construction of this instrument is described as being exceedingly simple, and the apparatus, it is asserted, can be used with great ease. The hydroscope consists of a piece of ordinary gas pipe, about six feet long, to the extremities of which upright tubes are attached. The whole is nearly filled with water, and in each upright tube is inserted a tin float carrying a cross piece, and weighted so that when the long tube is in a horizontal position the cross-bars are on an exact level. An upright tangent scale, graduated for yards of distance, is attached to the sight end of the tube, which moves on its center in both a horizontal and a perpendicular direction. The instrument is placed in any part of the battery, which commands an open view, and the observer revolves the tube until it is on a line with the object, and then raises the tangent scale until he can just see the object in a line with the two cross-bars. The range is then read off in the tangent scale, and the gun is placed in the direction thus ascertained.

THE ENGLISH CHANNEL BRIDGE.—It appears from the French papers that a proposal has been made by M. Boutet, the projector of this enterprise, to undertake the connection of the town of St. Malo with the French coast by a causeway or viaduct, constructed on his system, and that the Anglo-French Channel Bridge Company are about to undertake this work. The town of St. Malo stands upon an island, distant from the mainland, with which, however, it is in some measure connected by a causeway usually covered by the sea. A road raised upon a bridge, such as M. Boutet has proposed for crossing the Channel, would, therefore, be a great advantage to such a locality, and it would afford the company an excellent opportunity of demonstrating the feasibility of M. Boutet's mode of construction, which, indeed, seems to be pretty well acknowledged in Paris. The proposition forms the subject of a very elaborate criticism in the February number of "Le Genie Industriel," a valuable and influential French work, which has been long devoted to the examination of leading scientific works. The writer of the article in question, M. Fieort, demonstrates the theoretic soundness of the principles on which M. Boutet relies.—*London Min. Jour.*

COTTON PLANTING IN CHINA.—The culture of cotton is largely on the increase in China. A Consular report lately forwarded to the Foreign Office of Great Britain states that in twenty-three magisterial districts in the northern portion of the Province Kiangtse about 6,050,000 square acres of land are cultivated. Of these about a quarter are submerged every summer from the raise of the Yang-tze-kiang, about a quarter is irrigated land, a quarter rough mountain sides and hills, and the remaining quarter is garden land, incapable of growing rice, and of this about two-fifths are devoted to cotton cultivation each autumn. The farmer preserves from his crop sufficient seed for the following autumn. Between the cropping and the planting the land is under tillage. The cotton plant to a casual observer, it is said, looks thin and stunted,

and to a person who has seen it growing in the United States the yield seems small, and miserably poor; but the cultivation, except in very bad years, obtains on ordinary good ground from 1,000 pounds to 1,250 pounds per acre. Mr. Consul Medhurst states that in Shanghai there were 40,000 acres planted with cotton; but adds that complaints have been made of late by the cultivators that the Chinese local officials show an inclination to tax the growth of cotton where the produce is sold for a foreign market, and in one particular instance as much as 500 cash per picul has been actually taken upon every lot taken up for purchase to foreigners in the Hange-how and Hai men districts, on the northern bank of the Yang-tsze. This, of course, is contrary to the Tien-tsin treaty, and the case has been represented to her Majesty's Minister at Peking. Sir Rutherford Alcock has therefore, the opportunity of testing the merits of the new convention with China, and the promptitude of the Chinese Government to redress local grievances. It would be interesting to know before the Burlingame mission leaves Europe, what is the result of the appeal to the Celestial Empire.

SOMETHING NEW.—The Rope Railway is the invention of Mr. Charles Hodgson, C. E. A line of three miles in length is now at work.

"It consists of an endless wire rope 1½ in. in circumference, supported on a series of 15 inch pulleys carried on substantial standards about 150 ft. apart, although when necessary much longer spans are taken, in one case nearly 600 feet. The rope passes at one end round a Fowler's clip drum, driven by an engine which propels it at a rate of speed of from 4 to 6 miles an hour; upon this rope, boxes, each capable of holding about one cwt. of stone, are suspended from a plate or block which is seated on the rope, the box being attached to it by an arm which passes down only on one side, leaving sufficient space for it to pass clear of the supporting pulleys, but so connected with the box as to bring the center of gravity exactly under the rope. The boxes are run on to and off of the rope from shunt rails properly arranged in connection with it at both ends, each box being provided with a pair of small wheels to enable it to run on the rails. The boxes are started at intervals of from 100 to 130 feet apart, so that they arrive at their destination at the rate of 200 an hour, and thus deliver ten tons of stone per hour, or about 100 tons per day, the only motive power being an ordinary portable steam engine. Here is a railway without cuttings, embankments, tunnels, viaduct, or bridges; no matter how hilly the country to be traversed, this is easily compensated by simply increasing or diminishing the height of the standards; no matter what rivers have to be crossed, the wire rail will span them without a single pier. By means of such lines laid down in suitable localities, all kinds of farm and mineral produce may be collected from country districts, and delivered to the main lines in return for the produce of towns.

—An influential London company has the right of way across Honduras, and designs constructing a railroad there, with lines of English steamers in both the Atlantic and Pacific, and parties interested hope by such arrangement to be able to compete with our Pacific roads in the carrying trade of all but the lighter commodities.

LAKE SUPERIOR WINTERS.—There is a general misapprehension among people who have never wintered here, concerning the severity of our climate. It is perhaps true that we have as much cold weather as any other part of the United States; but it does not follow that there is more suffering from cold, more ill health in consequence, or less pleasure. Just the contrary is the case. Among a people gathered from all climates and countries, it is a subject of general remark that our winter weather is delightful.

We venture to say there is not a community in the Middle States more free from colds and influenzas than ours. Wet and damp feet are unknown—cold feet are rare. We have wintered in several States in the union, but never so comfortably as here. The reason for those apparent anomalies are: First—our climate is *uniformly cold* and the atmosphere *dry*. We are absolutely free from the ups and downs in temperature so common further south. We seldom see or hear of "slush and slop" in streets on Lake Superior. Second—This uniformity of climate and the customs of the people have established an out-of-door dress just suited to the weather which keeps one entirely comfortable. The German socks and arcic rubbers, with hooded Mackinaw coats, are proof against anything above or below 20° Fahrenheit, and we seldom have it colder.

This is a free country; our readers may reside just where they like; but as for ourselves we propose to winter either on the shores of Lake Superior or those of the Gulf of Mexico. We regard the mixed climate of the intervening country as injurious to the health, operating like "mixed liquors."—*Marquette Mining Journal Feb. 24.*

There is nothing in the mis-education of Americans in the geography and climatology of their country which requires so much correction as the erroneous impression about the snow-fall and temperature of the region between Lake Superior and Puget's Sound. A party from Walla Walla, W. T., arrived in Washington on the 10th of March, having had to walk 9½ miles through the snow to get around the blockade of the Union Pacific Railroad. They report that there was no snow at Walla Walla when they left, and that steamboats had run on the Columbia River all the winter. Thomas H. Canfield, General Agent of the Northern Pacific Railroad, received from the Surveyor-General of Montana Territory a telegram dated Helena, March 8, stating: "There is no snow from Helena to the summit of Mullin's Pass, or the Black Foot Pass, the highest points in the Rocky Mountains on the line of the Northern Pacific Railroad; thence for 12 miles down the north side of the mountains, there are two feet of snow; thence westward through the Hell-Gate

—Herapath's *Journal* says: "The expenditures made on capital account by the six great French railroad companies at the close of 1868 was as follows:—Northern, £25,730,120; Eastern, £42,875,000; Western, £37,814,360; Orleans, £44,532,472; Paris, Lyons, and Mediterranean, £86,272,000; and Southern, £24,273,708. These are vast sums, but it must be borne in mind that nearly all the lines of France are vested in these companies. Indeed, the amount of capital expended by the minor French companies at the close of 1868, was only £5,750,096, altogether."

Pass for 200 hundred miles, only one foot of snow. During the last two winters, the mails upon this route, via Pend d'Oreilles Lake, have been punctually carried on schedule time." This inconsiderable snow-fall is in the region known as the "Mountain District" of the North Pacific line. The Walla Walla party in Washington reported further, that at Puget's Sound only two inches of snow had fallen up to the last day of February. The Sound is in the latitude of Quebec, 47° north. The snow on the roads around Quebec is now eight feet deep. Railroads in New-England and Northern New-York, in latitudes 41° and 42°, have within two weeks been blocked with snow three and four feet deep. In view of these fresh facts, Blodgett's Climatology of the United States will be found to be interesting and valuable reading.—*Tribune*.

—An improved metal for the manufacture of rails has been proposed, consisting of iron with an admixture of chrome ore. It has long been known that an alloy of about 40 per cent of iron and 60 per cent of chromium scratches glass almost as deep as the diamond; and Frey has stated that an alloy of iron and chromium may be formed by heating in a blast furnace oxide of chromium and metallic iron; it resembles cast iron, and scratches the hardest bodies, even hardened steel.

—The *Denver News* gives the following as prices of through tickets from that place to eastern cities: To New York, \$96.05; Boston, \$99.05; Philadelphia, \$94.25; Washington, \$93.75; Pittsburgh, \$89.05; Buffalo, \$91.55; Cincinnati, \$87.50; Chicago, \$65.70; and all other points in proportion.

—It is reported that the New York Central Railway has neglected to pay the government tax of 5 per cent. on its net earnings, and is now indebted in the sum of \$1,200,000 to the Internal Revenue Department.

—The highest altitude attained on the Central Pacific Railroad is 7,042 feet. The highest point on the Union Pacific Railroad is at Sherman, which is 8,434 feet above the level of the sea.

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PROPOSALS WILL BE RECEIVED up to Saturday, May 1st, inclusive, for the GRADUATION, MASONRY and BALLASTING of the remaining 47 sections of this road, situated at intervals upon the 90 miles between Connellsville and Cumberland.

Specifications will be ready for distribution at the Pittsburgh and Cumberland offices on Friday, the 9th of April, and all information necessary to the proper examination of the work will be afforded by the Engineers upon the line.

By order of the President and Directors.

BENJ. H. LATROBE, Chief Engineer.

OFFICE PITTSBURGH & CONNELLSVILLE R. R. CO.,
Pittsburgh, March 18th, 1869.

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This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the long-stem package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

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For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF NO. FORMS.	PRICES.	SIZE NO. OF NO. FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 256	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms, and also with working plans, if desired.

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D. McLAUREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati.
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton.
C. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., Indianapolis, Aug. 2, 1886.

THE STEAM SYPHON PUMP

IS THE

*Most Simple, Effective and Durable Device for
Raising Water by steam, yet discovered.*

It is an independent LIFT AND FORCE PUMP, without piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP.

WITH THE

STEAM SYPHON WATER-STATION

A locomotive can raise water, with its own steam, to fill its tender in the same time as from an ordinary tank; thus dispensing with tanks, pumping machinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops, Shops, Elevators, &c.,

AND BY FAR,

THE BEST BILGE PUMP,

for Steam Vessels, in use

For Circulars and other information, address,

STEAM SYPHON COMPANY,
48 Day Street,
NEW YORK.

VERY CHOICE

Oil Lands

IN

Kentucky & Tennessee,

FOR SALE BY

T. WRIGHTSON,

167 Walnut Street,

CINCINNATI

THROUGH —FROM— CINCINNATI TO NEW YORK

WITHOUT CHANGE OF
COACHES!

—VIA—

Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W. Railway, on Saturday Morning, by the 6:00 a.m. Lightning Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next day, Sunday

2 Through Lightning Express Trains for New York, Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6,15am.....	7,10pm
" Dayton.....	8,35 ".....	9,30 "
Arrive West Salem.....	1,50pm.....	4,53am
Leavittsburg.....	4,55 ".....	7,35 "
" Meadville.....	7,35 ".....	11,10 "
" Susquehanna.....	7,48am.....	11,29pm
" Paterson.....	2,25pm.....	6,03am
" New York.....	3,15 ".....	7,00 "
" Boston.....	5,45am.....	4,45pm

Sleeping Coaches on Night Trains the entire distance between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday night instead of Saturday night. All other Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
At Mansfield with Pitts., Ft. Wayne and Chicago Railroad.

THIS IS THE ONLY ROUTE TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely new, of the most modern, substantial, and approved description, unequaled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all Trains.

Ample time is allowed, at all hours,
for meals.

No effort will be spared by the Company to render a trip over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE CHECKS,

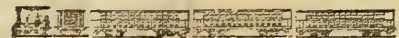
Apply at Cincinnati at New Depot of Cincinnati, Hamilton and Dayton Railway; or at northeast corner of Broadway and Front streets, and at No. 80 Fourth street, nearly opposite Post Office. Also at any of the principal Railroad and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. RUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1886, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a.m. and 8:00 p.m. On Sundays, one Express Train at 8:00 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change of cars to Chicago or Cincinnati, and but two to St. Louis. Passengers front be East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m., Pittsburg 12 night

9:00 a.m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 8:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN, from the West, leaving Pittsburg at 4:30 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at 7:09 a.m. Through cars from Pittsburg to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pittsburg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:52 a.m.; Allentown at 12:02 p.m.; Easton at 1:10 p.m. Through cars from Pittsburg to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing Reading at 10:40 a.m.; Allentown 12:20 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

2:10 p.m.—FAST MAIL, from the West, leaving Pittsburg at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 10:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO:

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7 00 A. M.	9 10 A. M.
Springfield & St. Joseph Ex.....	12 00 P. M.	4 30 P. M.
St. Louis & Chicago Ex.....	4 55 P. M.	12 15 A. M.

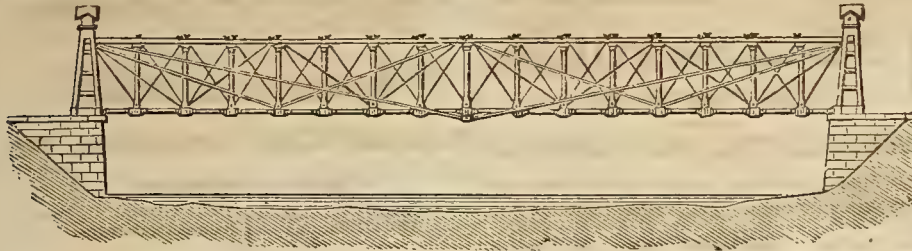
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5 15 P. M.	5 05 A. M.
Harrison Accommodation.....	10 10 A. M.	2 25 P. M.

Through Tickets can be obtained at the Burnet House, Spencer House and Gibson House Offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD Gen'l Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1392.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers, and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail and work to be done. By these means the maximum usefulness of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunities of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire to fit centers without boring, Composition Castings for Bearings; every description of Copper, Sheet Iron and Boiler Work; and every article appertaining to the repair or renewal of Locomotive Engines.

KNOX & SHAIN,
ENGINEERING & TELEGRAPHIC
INSTRUMENT MAKERS

Philadelphia, Pa.

W. M. F. HEWSON,

STOCK BROKER,

21 WEST THIRD STREET, CINCINNATI.

Buys and sells Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collections

AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
S. E. Cor. Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURGH, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points, with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent.
myll Pittsburg, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

[WITH

Productive Wells all

around them.

FOR SALE BY

T. WRIGHTSON

167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

—IN—

Railroad, Car and Machine Shop

SUPPLIES,

—AND—

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
350 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST.

RAILWAY SPRINGS. FREIGHT



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight. All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.
Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly to tent for the celebrated Wheels, either single or double plat with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner; the shortest notice, and on the most reasonable

PASSENGERS

Purchasing Tickets via

Baltimore & Ohio R.R.

-TO-

BALTIMORE,

PHILADELPHIA,

NEW YORK, and

BOSTON,

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON

Fare to Washington City same as to Baltimore.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
NO. W. BROWN, General Passenger Agent. } Dec. '67.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....	6 45 A. M.	
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Burnett House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.**JANUARY 5th, 1868.**

Cincinnati to St. Louis Without Change of Cars.

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 30 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 45 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cinc'tl,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine Street; Corner Front and Broadway; and at Depot, Foot Mill Street.

C. E. FOLLET Gen. Passenger Agent
J. W. CLEVELAND, General Superintendent.

Best Route to St. Louis and Chicago

INDIANAPOLIS,

CINCINNATI

—AND—

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,

CAIRO,

CHICAGO,

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West, North west and South-west.

5 THROUGH TRAINS DAILY,

(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express...	7 00 am	10 50 pm
Indianapolis and Cairo Express.....	6 30 am	2 30 am
Carroll and St. Louis Express.....	3 00 pm	4 08 pm
Springfield, Quincy and St. Joseph Express.....	3 00 pm	4 08 pm
Chicago Lightning Express.....	6 50 pm	11 30 am
St. Louis Lightning Express. Sunday		
instead of Saturday night.....	11 00 pm	6 15 am

No change of cars between Cincinnati, St. Louis and Chicago.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10 10 am	8 35 am
Harrison.....	5 30 pm	9 15 am
Lawrenceburg.....	4 45 pm	2 0 pm

Through Tickets can be obtained at the Burnett House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

MOSELEY'S WROUGHT IRON ARCH

BRIDGES,

AND

CORRUGATED IRON ROOFS

[ARCHED AND FLAT.]



CORRUGATED SHEETS, OF ALL SIZES, CONSTANTLY ON HAND, PAINTED, AND READY FOR SHIPMENT, WITH INSTRUCTIONS FOR APPLYING THEM.

MOSELEY & CO.
Boston, Mass.

EDWIN J. HORNER,

Successor to

McDANIEL & HORNER,



Locomotive and Railroad

CAR SPRING MANUFACTURER,

Wilmington, Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn

JOHN A. WRIGHT, Sup't.

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works June 9

THE SCHENECTADY

LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.,

Continue to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING

LOCOMOTIVE ENGINES

AND OTHER

Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding the work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.

PASCAL IRON WORKS.

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—from 1½ to 24 inches in diameter, and branches, for same, &c., &c.

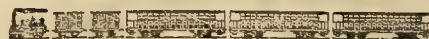
Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. F. M. TASKER
BY G. MORRIS.

Philadelphia, Wilm'gton & Baltimore

RAILROAD!!



FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. Express; 12.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West, 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD, { Editors
T. WRIGHTSON. }

CINCINNATI:
THURSDAY, APRIL 22, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street.
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.
One square, single insertion..... \$ 1 00
“ “ “ per month..... 3 00
“ “ “ six months..... 12 00
“ “ “ per annum..... 20 00
“ “ “ column, single insertion..... 5 00
“ “ “ “ “ per month..... 10 00
“ “ “ “ “ six months..... 40 00
“ “ “ “ “ per annum..... 80 00
“ “ “ page, single insertion..... 75 00
“ “ “ “ “ per month..... 25 00
“ “ “ “ “ six months..... 110 00
“ “ “ “ “ per annum..... 200 00
Cards not exceeding four lines, \$5.00 per annum.

WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	
Columbus Accommodation.....	3:45 P. M.	10:25 A. M.
Morrow Accommodation.....	5:10 P. M.	2:00 A. M.
Lightning Express.....	8:30 P. M.	10:40 P. M.
Night Express.....		7:20 A. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillshoro Accommodation.....	3:45 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:50 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.).....	7:00 A. M.	7:00 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Toledo, Detroit & Canada.....	7:10 A. M.	10:45 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Lima, Ft. Wayne & Chicago.....	7:10 A. M.	10:45 P. M.
do do do.....	2:30 P. M.	5:10 P. M.
do do do.....	7:19 P. M.	7:00 A. M.
Sandusky, Cleveland & Buffalo.....	7:10 A. M.	7:00 P. M.
do do do.....	5:45 P. M.	10:25 A. M.
Connersville & Indianapolis.....	7:10 A. M.	10:45 P. M.
do do do.....	2:30 P. M.	5:10 P. M.
do do do.....	5:00 P. M.	10:45 A. M.
Hamilton, Eaton & Richmond.....	7:10 A. M.	10:45 P. M.
do do do.....	5:00 P. M.	10:25 A. M.
Hamilton Accommodation.....		8:05 A. M.
do do do.....		6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION

Connersville, Rushville and Indianapolis Mail.....	7:00 A. M.	10:45 P. M.
St. Louis, Indianapolis & Connersville & Rushville Express.....	2:30 P. M.	5:10 P. M.
Cambridge City and New Castle.....	7:00 A. M.	10:45 A. M.
Cambridge City and New Castle, Express.....	5:00 P. M.	10:45 A. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:10 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	7:20 P. M.
New York Express.....	8:00 P. M.	10:40 P. M.
INDIANAPOLIS, CINCINNATI AND LAFAYETTE.		
St. Louis & Cairo Express.....	6:30 A. M.	6:30 A. M.
Springfield Express.....	3:00 P. M.	4:20 P. M.
St. Louis Express.....	11:00 P. M.	1:10 A. M.
Lawrenceburg Accommodation.....	10:40 A. M.	2:35 P. M.
do do do.....	4:30 P. M.	8:30 A. M.
Franklin, Martinsville & Gosport.....	6:50 A. M.	4:20 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:35 A. M.
Harrison Accommodation.....	5:30 P. M.	7:37 A. M.
Chicago Night Express.....	9:50 P. M.	10:32 P. M.

OHIO AND MISSISSIPPI.

St. Louis, Cairo & Louisville (Sundays excepted).....	7:50 A. M.	12:10 A. M.
Louisville Special Train (Sundays excepted).....	4:25 P. M.	11:45 A. M.
Louisville, St. Louis & Cairo Daily Express.....	7:10 P. M.	6:00 A. M.

ATLANTIC AND GREAT WESTERN RAILWAY.
Lightning Express..... 7:00 A. M. 7:00 P. M.
Night Express..... 7:10 P. M. 7:00 A. M.

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

Coal and Iron Statistics.

Coal and Iron must ultimately be two of the greatest elements of railroad success. Indeed, such large districts of our country are full of these great materials of industry and commerce, and so immense is the population to be supplied with them, that some railroads must be devoted to this business, and all, must more or less share in it. It will, perhaps, interest our readers as much as in any other subject, to give the statistics of the progress and amount of our Coal and Iron business.

We give the whole supply of Coal mined in the United States in 1868, as follows:

Anthracite (official) sent to market.....	13,405,016	Tons
Bituminous (including 402,299 imported).....	2,443,394	"
Consumed in coal regions (estimated).....	15,848,810	"
Bituminous mined and consumed not embraced in our tables in 1868 (estimated).....	2,200,000	"
Total in the United States in 1868.....	10,000,000	"
	28,047,810	"

Consumed in coal regions (estimated).....

Bituminous mined and consumed not embraced in our tables in 1868 (estimated).....

Total in the United States in 1868.....

States in 1868.....

Making the consumption a little over one-fourth the production in the United Kingdom of Great Britain in 1867, which was 104,500,480 tons. In 1854 the annual product of Coal in the United Kingdom, was only 64,661,401 tons, an increase of 40,000,000 tons in 13 years.

Of the supply of 15,605,016 tons Anthracite, nearly if not quite, 6,000,000 tons were consumed on the lines short of tide water, and sent into the interior; and of the balance, 9,605,016 tons, not less than 7,600,000 tons were sent to the markets east, of and in the vicinity of New York, leaving only 2,005,016 tons for the consumption of Philadelphia and all markets south of Philadelphia.

There is something in this very curious and remarkable. The product of the Bituminous Coal seems to be only one-sixth of the Anthracite, when the whole country west of the Alleghenies is supplied only with Bituminous Coal. The country supplied with Bituminous Coal is equal in proportion to that which is supplied with Anthracite. It is obvious, that this state of facts must arise from the greater supply of wood in the new States, and the lesser amount of manufactures. But, this state of things can not continue long, and we infer, that there will soon be a rapid increase of the coal trade in the valley of the Ohio.

The following are the receipts of coal at Port Richmond, which we believe is at or near Philadelphia:

1861.....	\$ 909,112
1862.....	1,325,400
1863.....	2,128,154
1864.....	2,058,423
1865.....	2,051,202
1866.....	2,402,897
1867.....	2,121,199
1868.....	2,113,581

In 1868 the amount was equal to sixty millions of bushels. The average at Cincinnati is one fourth of this. Suppose, that the receipts of Coal in Cincinnati were four-fold what they are, what a vast difference it would make in the business and prosperity of this city. We have been told that Philadelphia has gained more than a hundred thousand inhabitants, by the Coal trade.

Now to compare with the above statistics of Coal in the United States, we give the

COAL TRADE OF GREAT BRITAIN.

Summary of the Coal Produce of the United Kingdom for the year 1867.

	Tons.
Durham and Northumberland.....	24,867,444
Cumberland.....	1,512,514
Yorkshire.....	9,834,585
Derbyshire.....	4,550,550
Nottinghamshire.....	1,575,000
Leicestershire.....	1,150,000
Warwickshire.....	880,850
Staffordshire and Worcestershire.....	12,526,554
Lancashire.....	12,841,500
Cheshire.....	935,000
Shropshire.....	1,558,500
Gloucestershire and Somersetshire.....	1,975,000
Monmouthshire.....	4,569,500
South Wales.....	9,092,300
North Wales.....	2,371,250
Scotland.....	14,125,943
Ireland.....	125,000

Total produce of the United Kingdom.....104,500,480

Of this coal 9,761,827 tons were exported, leaving upwards of ninety-five millions tons for our own home consumption. The largest quantity of this was consumed in our iron manufacture, which maintains its proud position.

New England imports a great deal of Coal from the British Provinces, and is under the absolute necessity of going out of itself for Coal.

IMPORTS OF COAL INTO BOSTON.

The imports of foreign and domestic Coal at the port of Boston for nine years have been as follows:

From	1867.		1868.	
	Foreign Tons.	Domestic Tons.	Foreign Tons.	Domestic Tons.
Great Britain.....	13,991	7,473		
Provinces.....	103,419	96,423		
Philadelphia.....		435,061		446,894
Alexandria.....		747		21,212
Baltimore.....		75,651		59,987
Other places.....		168,762		214,293
Total.....	117,410	680,221	103,001	742,371
1867.....		117,410		680,221
1868.....		119,340		676,376
1865.....		209,221		538,977
1861.....		788,786		516,666
1863.....		180,445		549,921
1862.....		157,285		477,580
1861.....		130,687		503,815
1860.....		138,895		584,408
1859.....		110,200		570,325

The above indicates the course of trade. The supply from the Provinces has only fallen off 6,991 tons; while the increase from Philadelphia was 11,833 tons; from Alexandria and Baltimore, 4,801 tons, and other places 45,516 tons, which means New York. Since the duty of \$1.25 per ton has been put on Nova Scotia Coal, the foreign trade at Boston has only fallen off 106,314 tons, while the domestic trade has increased at that port 203,394 tons, with no average increase of prices over those that prevailed when Nova Scotia Coal was admitted duty free. The impor-

tation of 402,299 tons put \$502,873 in the National Treasury, while at the same time it aided in the development of our own Bituminous coal regions, which when fully developed, will create competition at home, and tend more to keep down prices to the consumers at Boston, than the encouragement of foreign supplies, which may be cut off at short notice. Americans have a perfect right to invest money in foreign countries, but they have no right to ask an American Congress to protect these foreign investments to the detriment of home interests. And besides if they do not develop the home Bituminous Coal regions, with the supply of Anthracite limited, in a very few years the price of Anthracite Coal will be largely increased on the seaboard.

The above facts and remarks are from the "*Miners' Journal*."

Let us look now into the statistics of Iron, for Coal and Iron are and will always be associated together, Coal is necessary to make Iron, and apply it properly to use.

We copy again the *Miners' Journal*:

The following is the production of Iron in England and the United States for the last twenty years.

England.	United States.
Tons.	Tons.
1857.....3,659,447	798,157
1858.....3,456,064	705,094
1859.....3,712,904	840,427
1860.....3,826,752	913,774
1861.....3,712,390	731,564
1862.....3,943,469	787,662
1863.....4,510,040	947,604
1864.....4,767,951	1,135,497
1865.....4,819,254	931,582
1866.....4,523,897	1,350,943
1867.....4,761,028	1,461,626

The United States as yet only produces one-third the pig Iron of England; but, the above table shows that this country is fast coming up with England. In twenty years England increased 30 per cent. while the United States increased 75 per cent.

We take the following extract from the *Miners' Journal*, especially in view, of Mr. Welles' extraordinary report:

As the production of pig iron is the general index of the iron trade of any country, we desire to call the attention of our readers to the periods when the protective policy of the country existed, and when we had what is termed free trade. We had a Protective Tariff from 1825 to 1839, when the Compromise measures took full effect in 1840. During that period the American product of pig iron increased rapidly, while the English product was considerably checked. From 1840 to 1843 our product declined largely and the English product increased in proportion. After the Tariff of 1842 was passed our trade increased tremendously, running up from 215,000 tons in 1842, to 800,000 tons in 1847, while the English product exhibited but a small increase. In the latter end of 1843, or the beginning of 1844, the first iron rail was made in the United States under the Tariff of 1842. It was contended that it was impossible to build a rail mill in the United States; that there was not sufficient capital, &c., and if a duty of \$25 a ton was put on foreign rails, it would tax the consumers to that amount. The friends of protection contended that with

out such a duty no mills could ever be erected in the United States, and we would always be dependent on England for rails, with so much raw material at home. The result was that in about 18 months after the passage of that bill, we were making iron rails at home; and in the course of 4 years we were producing a sufficient quantity to lay down a mile of railroad a day, and they were sold at lower rates, with the \$25 duty on, than we were paying for English rails before the enactment of that Tariff, duty free.

In 1849 the destructive Tariff of 1846 was felt, and from that period to 1855 our product had dwindled down from 800,000 tons per annum to only 564,000 tons. Since then it has shown only a gradual increase as the country progressed under the most adverse circumstances, up to the time of the breaking out of the Rebellion. The increase would have been much smaller if it had not been for the demand for new railroads, and also for the great Pacific Railroad, which could only use American rails, and which kept the rolling mills at work. Since this demand is slackening off some, a number of rail mills have but few orders, and one in Pottsville had none last week.

The *Miners' Journal* thinks Welles' Report none too honest; and if any body will examine his Report, they will be apt to come to the same opinion.

A. S. Hewett, Esq., U. S. Commissioner to Paris in his admirable report on iron, gives the production of the world as follows in 1866:

Countries.	Pig Iron.	Wrought Iron.
England.....	4,530,051	3,500,000
France.....	1,200,320	844,734
Belgium.....	500,000	400,000
Prussia.....	800,000	400,000
Austria.....	312,000	200,000
Sweden.....	226,676	148,292
Russia.....	408,000	350,000
Spain.....	75,000	50,000
Italy.....	130,000	20,000
Switzerland.....	15,000	10,000
Zollverein.....	250,000	200,000
United States.....	1,175,900	882,000
	9,322,047	7,205,026

Allowing for the production in barbarous countries, and something for the use of scrap iron, it may be stated in round numbers that the production, and consequently the consumption of the world has reached 9,500,000 tons of 2,240 pounds each, on 21,280 millions of pounds; so that if the population of the world has reached 1,000 millions, a consumption of a little over twenty pounds of iron per head. A careful calculation, after allowing for the iron exported, shows that the consumption per head in England is 189 pounds of iron. The consumption in Belgium has reached about the same limits. The consumption in France is 69½ pounds per head, and in the United States not far from 100 pounds per head.

This is a very interesting document. The whole world consumes 20 pounds per person, and the United States 100 pounds. This proves more conclusively than anything else could, the difference between barbarism and civilization. It proves, that such countries as China and India are deficient in arts and machinery; and, in fine, the conveniences and comforts which civilization gives. These Sta-

tistics are moral and religious preachers; they prove, out of the grossest materials, that the religion of Christianity is beneficent to the world.

The Influence of Railroads.

Railroads have immense influence in increasing the value of property. By facilitating the transportation of products to market, and decreasing the cost of articles from abroad they make communities wealthy and thus ameliorate the burdens of taxation on all. The following statement has been prepared by the officers of the Pacific Railroad to show the influence exercised by that road in developing the resources of the counties through which it passes, as seen by the increase in taxable property in 1867 over that of the year previous to the passage of the road through the county; in contrast to which is given the assessed value of property for 1860 and 1867 of ten counties which have been denied facilities:

RAILROAD COUNTIES.

Counties.	Year.	Valuation for year.	Valuation 1867.	Increase in Valuation.
St. Louis.....	1851	\$34,617,193	\$13,216,120	\$101,568,92
Franklin.....	1852	1,451,134	5,629,964	4,178,830
Gasconade.....	1854	399,595	2,919,095	1,829,100
Osage.....	1855	481,303	2,214,251	1,162,943
Cole.....	1855	1,212,981	2,69,029	1,876,418
Monteau.....	1857	752,100	3,398,772	2,646,672
Cooper.....	1859	5,399,630	5,933,355	535,725
Morgan.....	1859	1,705,474	2,25,232	514,758
Pettis.....	1860	3,456,923	6,574,337	3,117,414
Johnson.....	1863	2,198,613	7,168,011	4,969,478
Cass.....	1865	651,594	7,084,816	6,433,222
Jackson.....	1865	5,000,074	10,948,731	5,948,657
Total.....				\$135,202,913

COUNTIES WITHOUT RAILROADS.

Counties.	Valuation 1860.	Valuation 1867.	Increase.	Loss.
Barry.....	\$1,922,727	\$254,680	\$1,668,047	\$168,047
C Girardeau.....	3,317,405	428,850	3,385,255	.....
Greene.....	3,052,197	3,414,224	362,027	.....
Lawrence.....	1,637,258	1,899,074	261,816	.....
Mississippi.....	1,018,660	896,777	.....	605,633
New Madrid.....	1,711,546	62,783	.....	1,028,763
Oregon.....	507,861	620,437	112,576	.....
Polk.....	1,920,621	2,149,505	228,884	.....
Webster.....	1,014,142	1,217,364	203,222	.....
Total.....			\$2,149,940	\$1,601,893

The direct and incontrovertible inference from this is that those counties which were fructified by railroad influence were made a hundred million dollars richer thereby than they would otherwise have been.

It is worthy of consideration by all Cincinnatians who either directly or indirectly pay taxes, or in any way carry on business, or own property, whether the same influences that have added a hundred million dollars to the wealth of certain counties in the West would not be salutary with us— whether the extension of our railroads will not immensely benefit our whole people.

NEW MUSIC—We are indebted to JONNY CHURCH, Jr., for a copy of a Concert Song, entitled "My Own Beloved Home," composed by the talented and popular artiste Madame C. Rive. The music is of that brilliant and dashy style for which the author is so justly celebrated. We have also received the following gems from the "burnt cork operas" which will be duly appreciated by the lovers of burlesque and minstrel songs, "My Love she is a Cook," by Johnny Allen, and "It's not the Miles we Travel, but the Pace that Kills"

SOUTHERN RAILROAD.

THE FERGUSON BILL.

We had hoped that long ere this we should have been able to report the Southern Railroad "in process of construction;" but as "hope fails, the heart is made sick!" The effort to secure the construction of the road by the aid of individual donations, is, on the part of those who have been managing it, confessedly a "failure." What those efforts have been, or whether well directed or properly made, we do not propose now to discuss. Three months ago we had reason to suppose that private enterprise *would* succeed, and that combinations then forming would secure its construction. Although we desire it understood that we ever have been, and are still in favor of private enterprise, "on general principles," there is such a studied effort to become perfect in "how not to do it," because all beneficiaries can not be made to contribute alike—the millionaire and the head-carrier—it is evident, arguing from the past, that it never will be done in that way, or will at least require the life-time of two or three more generations.

THE ONE MILLION BONUS PLAN

Of Judge DICKSON, has been also fully canvassed, as to its practicability, and found to come short of accomplishing the desired result. The Constitutionality of this "Plan" rests on the fact that the money is to be given to an *individual*, instead of a "joint stock company, corporation or association." This, at best, is but "whipping the devil round the stump," and is clearly open to the palpable objection that but few individuals have the financial ability, unless they are the mere tool of a "joint stock company, corporation or association," to carry it to completion, and to give the city what is really wanted, not only the road made, but security that it will be managed in the interest of Cincinnati, instead of some gigantic monopoly, whose whole interest is in carrying all trade and traffic beyond us to other markets.

CAN THE CITY AFFORD TO BUILD THE ROAD?

Of the constitutional right of the city to build the road, there can be no more question than of its right to build sewers, pave streets, or construct avenues. The only question remaining is that of policy—profit and loss. To decide this question dispassionately, it is necessary first to inquire what is the risk to be run—next will the advantages to be attained warrant it. The FERGUSON bill provides for the appointment of Trustees by the Superior Court, who are clearly to hold their positions "during good behavior," or a faithful administration of the trust reposed in them. They would be the Trustees alike of the bondholders and the city; and, hence, would not, and should not be subject to change or removal through political influence. The trust can not, therefore, be construed into a "political machine,"

and whatever political influence the trust might exert would only be "during construction," and then only in a district beyond the jurisdiction of the appointing power.

Another question of risk is that of unfriendly legislation by other States, and the consequent injury to the property and deterioration of the value of the securities. This is not as serious a difficulty as at first appears. First, the work can, and will, only be constructed under proper charters from those States, (contracts, with vested rights) and as the parties in interest belong to different States, questions that may arise will have all to be adjudicated in the United States Courts, beyond the influence of State prejudice or the corruption of local influences.

Next is the amount at risk. This depends on the length of road to be constructed. At what point it is determined to begin and where to end. The whole sum of cost is not the sum at risk; because the road must be worth something when done. It should be further taken into consideration that the road can be more cheaply made on the Ferguson plan than on any other, because the securities can be made as "good as gold," and the whole work done on the "cash principle." Thus saving in commissions and discounts almost as much as the entire amount proposed to be given to "an individual" as a *bonus*. In no scheme, on the *bonus* plan of construction, is it proposed that the *bonus* should be more than *one-eighth* the entire cost. Hence, we argue, as "an individual" can not afford to take perilous risks, that the sum at risk is not more than "one-eighth the cost of construction;" or, in other words, that the road when made will be fully worth seven-eighths of its cost; on this it will pay. A very small addition to the tax duplicate would provide a sufficient fund to meet all deficiencies that might arise out of the "risk on one-eighth the cost," less the savings on commissions and discounts; even that risk and tax would soon be extinguished after the completion of the road.

CAN WE AFFORD IT?

We believe there is but one sentiment in the whole community on this point. That an increase of business would be the result, everybody believes; with increase of business comes enlarged profits, and a more rapid growth of resources, wealth and ability to bear taxation. It matters not how vast is our material wealth, if it is *non productive*. It would ruin Rothschild to own our public domain, if he had to pay taxes on its vast and imaginary worth; but let it be cut up into farms, and tenanted with all the appliances of civilization and a dense population, and the case would be different. It is just so with Cincinnati. Give us business, and no one will grumble. Curtail our trade, and all live men will be constrained to follow the illustrious example of the "rats who left the sinking ship."

Kansas Pacific Railway.

ITS PRESENT AND ITS FUTURE.—ITS INTEREST
TO ST. LOUIS.

[From the Missouri Democrat.]

I am glad to see by your morning's paper that you speak of the extension of the Kansas Pacific railway to Denver City, as if it were a sure thing, which it probably is, especially if you throw the energy and influence of the *Democrat* into the scale. Advocate it as you have the elevators and barges and railroad connections, and the grain association, and a dozen other things of the like public interest, and in one year from July 4th, next coming, we shall go to Denver City by continuous rail, and the wealth of Colorado, the richest and most varied treasure house of the West, will be within our reach. I have just returned from a rapid journey to the present terminus of the road, Sheridan, 215 miles this side of Denver, and the importance of this extension, not only to St. Louis, but to the general prosperity of the State of Missouri, can not in my judgment be easily exaggerated. This is my apology for addressing you now.

The Kansas Pacific is really the extension of the Missouri Pacific road, joining it at State Line, two miles west of Kansas City, and stretching clear through the State of Kansas to Sheridan, near the western boundary, a distance from St. Louis of 688 miles, and 405 from the State line. There it stops in the wild plains. It ends nowhere. For two hundred miles, between Elsworth and Sheridan, the road passes through an immense plain, rolling prairie, in all of which there is no trace of human civilization, except the road itself, the water tanks and guard-houses, and a few U. S. Indian forts. All of this magnificent plain will become, in a few years, grazing pastures and stock farms, for which it is admirably adapted, having abundance of water, salt and nutritious grass, by which, for centuries past, countless thousands of buffaloes have been fed and fattened. In fact it looks now, as far as you can see, on every side, like a deserted stock-yard, covered with "chips" or droppings of the herds which grazed there through the last summer months. But at present this great region yields nothing to the road. Between Elsworth and Sheridan there is no settlement or farm, except at Fort Hays, and Sheridan is but a town "on wheels," owing its existence to its being at the terminus, the point from which the wagon trains start for Denver City or Santa Fe. On the morning when we were there, a train of twenty-five wagons, six mules each, heavily laden, started for the last named city, a distance of over four hundred miles; and this is now the shortest and best transportation to be obtained. They told us that daily trains leave Sheridan, on the same road and to Colorado, but one locomotive would move in the same time, ten times as much at less than one-tenth the cost. At such disadvantages has the Kansas Pacific thus far been working. It has created nearly all the business it has done, its only outlets and feeders at the west, being the "prairie schooners," the white covered wagons, which wind at snail's pace, tantalizing rather than supplying the prodigious demands of the communities which they serve, and yet how great are the results already attained! What a satisfactory return has the road already made! For the first two hundred miles, from Kansas City to Ellsworth, cities and towns and villages have sprung up,

with all the evidences of advancing civilization, and you are never out of sight of settlements and farms. The company is sometimes tasked to find transportation for the freight offered, the way business is daily increasing, and a trade with St. Louis has been opened or created far beyond expectation, both as to value and amount. The enterprise is only four years old, and the official report of this year's business is as follows:

Total receipts for the Transportation Department for 1868.....	\$1,910,161 83
Expenses.....	2,036,494 20

Net earnings of road.....	\$873,667 63
Net proceeds of sale of lands in 1868.....	255,205 46

Net income of the Company for 1868.....	\$1,128,872 09
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The operating expenses for 1868 were equal to 54 per cent. of the gross earnings of the road, a decrease of 11 per cent. over the expenses for 1867.

The average length of road operated in 1868, was 403 miles, including 33 miles of branch road from Leavenworth to Lawrence.

Total number of passengers carried was 109,332; transported an average distance of 61 miles.

Total freight carried in 1868 was 124,377 tons; carried an average distance of 162 miles.

The tonnage of regular merchandise traffic of the Company increased in 1868, more than 50 per cent. over that of 1867.

The above shows that almost the entire trade and traffic was local, little or no through trade passing over the road during the year, owing to Indian troubles, &c.

With such results from so small beginnings, and so soon attained, we may well hesitate to prophesy the magnitude of returns, or to estimate the amount of trade which will follow the building of the road through Santa Fe and Albuquerque to San Francisco. The road is a necessity to the whole country, and every day's delay in building it is a national loss. But in what manner the government can properly aid it is not yet settled, and there are, perhaps, difficulties in the way not yet removed. My present object is only to speak of the Denver road, to which no objection can be brought, and which is perfectly feasible without further legislation or aid.

It is a distance of two hundred and fifteen miles, over a practicable route, and can be built and supplied with needful rolling stock, at rate of \$25,000 a mile, say \$5,000,000 in all. This opens the way to Denver City, and, if it stopped there, the advantages to be gained would justify the outlay. But, in fact, that is itself only the beginning of a new career. A contract has already been entered into, signed and sealed, by which, in consideration of certain grants and covenants, the Denver Pacific Railway Company agree to build and operate a line from Denver City, through the State northwardly one hundred and six miles, to the Union Pacific road, tapping it at Cheyenne.

The line of this road has been determined, and the grading, all but thirty miles, already. Look upon the map and you will understand what that means. It gives us here the benefit of the Union Pacific road by a new and shorter line than the present, and under conditions which, by the laws of Congress controlling that road and the Kansas Pacific (or Eastern Division) road, prevent the Central Pacific from discriminating against us or in

favor of the northern line. This is of itself, even if the trade of Colorado were not worth considering, enough to make the extension to Denver and Cheyenne justifiable, for it would bring San Francisco by a second and more desirable route nearer to St. Louis than to Chicago, and would place us in fair and equal competition with that and other northern cities, which is all we have a right to ask, and more than we are likely otherwise to gain. The Kansas Pacific must meet the Union Pacific at some point west of the 100th meridian, in order to claim equal rights and privileges in the western half of the line, and if our only connection should be at Omaha or Fort Kearney, there would be an unending battle to wage upon our unequal terms.

But apart from this, the State of Colorado is of almost unequaled importance, by the variety and wealth of its resources. In a very few years its trade alone would support the six hundred miles of road from Denver to Kansas City. A large part of such trade would be permanently secured to St. Louis, which would be more than ten hours nearer to Denver than any other large city, and on the directest and shortest line to Philadelphia and New York. The mines of Colorado are as rich and as easily worked as those of California. At least one-third of its whole territory is good, fertile soil, yielding most liberally, even to the crude agriculture of its present occupants. Thirty to fifty bushels of the very best wheat, to the acre, is the average yield; of oats say fifty and of barley forty, for the whole State. Vegetables and fruits of the finest quality and every kind, better and heavier than can be found in "the States," are every where raised. Stock raising is a sure pursuit, and over 40,000,000 acres of pasture land, the cattle range at will and take care of themselves, the winter through. Such is the uniform testimony of recent and careful travelers, who prophesy the rapid progress of all the industrial interests of the State. Its population is now nearly 60,000, and is composed in the main of a far better class than is usually found in new States.

Colorado is the "Switzerland of America" but excels Switzerland, in its scale of greatness as much as that Alpine region excels New Hampshire. It will become as soon as accessible, the summer resort of invalids and lovers of nature from all parts of the United States. All travelers speak enthusiastically of its beauty, its parks, its mountains its hot springs, its mineral waters, its wonderful clearness of atmosphere and healthfulness of climate, uniting in itself all the characteristics requisite for the steady growth of a great and prosperous community.

This whole State lies at our doors. We have but to reach out our hands to give and receive all the commercial and social advantages, for which modern civilization creates both demand and supply.

In view of such facts, the building of the 215-miles from Sheridan to Denver should be an easy and immediate work. As soon as finished a large through traffic to the Eastern cities will begin over the Hannibal and St. Jo., the North Missouri, and the Missouri Pacific roads. When our St. Louis bridge is completed, the lion's share of this traffic will pass over it, for by the contemplated straightenings of the present roads, this will be, by fifty miles, the nearest way to New York, and at present there is no nearer. Those three great roads and the great lines leading to the Atlantic cities should all favor the desired extension and help it if they can. But no city has an equal interest in the work with our-

selves. With proper energy, having that road to aid us, we might secure the controlling trade with Colorado for all time to come, and in twenty years that State will number as large a population as Missouri claims now.

The following comparison of distances will be of interest:

	Miles.
Denver to New York, via Chicago.....	2,021
Denver to New York, via St. Louis.....	1,971
Saving by St. Louis.....	50
A difference which will be increased by contemplated changes, to 88 miles.	
Denver to Chicago, via Omaha.....	1,122
Denver to Chicago, via Kansas City...	1,108
Saving by Kansas City, at present.	14
Denver to St. Louis, via Omaha.....	1,068
Denver to St. Louis, via Kansas City...	891
Saving by Kansas City.....	177
Denver to Chicago, shortest line.....	1,108
Denver to St. Louis, shortest line.....	891
Difference in favor of St. Louis...	27
Which is a saving of ten hours travel, or a whole working day.	

The Scientist, Inventor and Mechanic.

Not seldom the functions of these three great departments of human knowledge and progress are merged into one, so far as general opinion may reach, while the fact is they may be as distinct as any separate departments in any one art. The scientist deals with the qualities of matter and the laws which govern them separately or in combination. He is, or should be, in close communion with Nature, a student in her school, and a progressionist into her mysteries. He grasps the bare crags of knowledge, climbs to their summits, or explores their caverns. He notes the substances with which Nature works and the methods and agents of her working. Sometimes from the knowledge thus gained he becomes, himself, an inventor, but usually his investigations are too absorbing for him to relax his efforts in this direction, and he is satisfied with the almost endless vistas that open to him as he clears away the rubbish left by previous explorers and surmounts the obstacles placed by Nature herself. It is a noble department of human endeavor, as its demands are large, its obstacles formidable, and its rewards glorious. Moreover its field, although patiently worked by his predecessors, is ample enough for the exercise of all the energy and determination of the scientific explorer. However many may have scoured the ground before him, there are points of interest they have never seen, and mines of wealth they have never discovered—only dreamed of. But even if the scientific explorer is content to traverse paths already worn bare by the feet of his predecessors, he will not infrequently find unnoticed flowers by the roadside and rejected gems in the dust of the way. He prepares the way, by his accumulations of facts and his series of theoretical suggestions, for the inventor, who asks only the opportunity and means to give a living form to the scientist's discoveries.

The inventor must have a practical mind, whether he has a practical knowledge of mechanics or not. The constructive faculty is absolutely necessary to the inventor. He takes the facts discovered by the scientist and

gives them form, which the mere student never could have done. In his hands the crude or bare facts of scientific investigation, in connection with the experiments necessary to their development, assume form and may be brought forth into useful shapes to bless and assist toiling millions, instead of merely astonishing and entertaining gaping audiences. The curious experiment becomes under him the useful possibility; the discovery of the student becomes to him a suggestion of practical use; facts, or even possibilities, are to him living realities.

But it is the mechanic who elaborates the idea of the inventor. He it is who clothes it with a practical form, furnishes it with nerves of steel and muscles of iron, and endows it with life and motion. Without his skill the result of the scientist's search and of the inventor's thought would be comparatively valueless. Indeed, his skill is frequently the only means of making the inventor's idea useful. In short, the mechanic, who as the model maker elaborates the inventor's ideas, is often the real inventor. The crude unworkmanlike contrivance of the inventor, that in his unskillful hands is merely a travesty on a machine, is made to assume form, proportions, elegance, and efficiency. So valuable is mechanical skill to the perfection of an invention that it is not surprising that practical mechanics constitute the large proportion of inventors. But if valuable inventions are often made by unskilled persons, it is seldom they are successful until after they have passed through the hands of the mechanic; and sometimes the addition or alteration, made by the mechanic and modestly termed an improvement, is the element of the inventor's success.—*Scientific American*.

Submarine Blasting.

The East river entrance of the New York harbor is obstructed by the presence of sunken rocks, which render the navigation of deep draft vessels a matter of considerable difficulty, and of no little danger. Sixteen years ago the obstructions were partially reduced by blasting, but the process, which consisted of lowering charges of gunpowder upon the rocks, and igniting them by a battery through connecting wires, served only to remove such salient points as presented themselves to the action of the powder.

The improvement of this portion of the harbor has lately again occupied the attention of the United States Government, which has appropriated 17,000% to this object.

Preparations are now being made for the removal of one of the principal obstacles known as Hell Gate, and special apparatus has been designed for drilling the sunken rocks for the introduction of the charge. The principal part of the machine is a water-tight iron casing, in form a depressed semi-spheroid, 7 feet in diameter. It has three solid steel feet or toes by which its stability on the rock is secured. Rising from the upper part of the casing is a conical wrought-iron frame, supporting the upper end of the drill shaft by means of two parallel rods entering into sockets in a cast ring at the top of the frame. The drill bar passing up through the center of the top is furnished at the bottom with a bit, one and a half inches diameter, having imbedded in its face nineteen diamonds, and rotating at the rate of from 300 to 500 revolutions per minute, advancing at

the rate of from one to one and a half inches in the same time.

The feed is caused by a differential gearing which steadily operates to advance the drill into the rock, the debris being washed away by the water forced into contact with the bit through a small rubber hose. The water-tight chamber of the machine contains a pair of engines working at right angles to each other, with a horizontal stroke. As soon as the hole is completely drilled, and also when the drill shaft is withdrawn from the rock, information of this is given by a magnetic bell which is acted upon by a double wire cord insulated from the water and passing down one of the parallel rods or tubes upon which the crosshead is fixed.

This drill weighs nearly five tons. It will be worked from a wrecking tug with a derrick, by means of steam supplied from the boiler of the tug. To prevent this steam from being condensed in its passage through the water to the engine, it is conveyed in a hose surrounded by another, through which the exhausted steam passes.

The rock which is to be drilled in the Hell Gate is that known as the "bastard" granite, and is much softer than either the Quincy or Main granite, on which the drill has been satisfactorily tested. After a number of holes are drilled over a certain space, a diver will descend and charge them with cartridges of nitro-glycerine, which will be exploded in the usual manner. The fragments will be raised by automatic grapnels.—*Engineering*.

NORTHERN MICHIGAN RAILROAD.—We learn from the *State Republican*, of Lansing Mich., that a meeting of the stockholders of the Northern Central Michigan Railroad, which runs from Amboy to Jonesville, Albion, Eaton Rapids and Lansing, is called to be held at Albion on the 7th of May, to consider the question of letting the contract for fifteen miles of the road bed, \$6,000 per mile having been subscribed for that purpose. From what we can learn, the prospect of the speedy completion of this road to Lansing is very flattering, and at this point it would form a connection with the proposed line northward through Clinton and Gratiot counties. Lansing is to be a great railroad center, and our citizens should be ready to spend their time and money to push forward these great enterprises to completion.

The *Republican* further says, that, a railroad meeting is to come off at St. Johns today, (April 15th) in the interest of the proposed line from Lansing, through Clinton, Gratiot and Isabella counties, to connect with the Flint and Pere Marquette railroad. Every one of the committee appointed last week should attend.

RAILWAY MANAGEMENT IN EGYPT.—Mr. McGregor, the well known owner of the Rob Roy canoe, has been recently making explorations in Egypt and Syria; and in the course of an interesting letter to the *Times* describing his adventures, he speaks as follows as to the management of the Suez and Cairo Railway:—"My Canoe was carried by railway from Suez to Cairo with much difficulty and expense. The natives laughed at me for 'buying tickets' as a passenger, it being the constant practice on that line to bribe the guard with five francs and travel as one likes." We should think that a guard's situation on the above line would be a fine opening for a man not troubled with too sensitive a conscience.

The Climate of the Grand Traverse Region as Affecting the Production of Fruit.

[From the Traverse Bay Eagle, April 9, 1869.]

The fact that the Traverse region is very favorable for general farming, and that a part of it is remarkably well adapted to the raising of fruit, has been many times set forth in the *Eagle*; and statements of encouraging success in the productions of the farms and fruit gardens, sufficient to lead people to desire to locate here, did they fully credit them all, have been as often made.

While some are locating here, thousands of cautious people, contemplating a removal to some place, weighing the advantages of different parts of the country, scarcely give a second thought to what they hear of this region, because it is so far north that the facts given do not seem probable. I wish to refer that class of your readers to certain existing natural causes, to show that the facts are not improbable, but on the contrary, are to be expected; and that in looking for a new home, they may expect to find here a country free from bilious disease in summer, and pneumonia in winter; where abundant farm crops can be raised, and as fine grapes, peaches, cherries, pears and plums as grow north of the Ohio river, and better apples than can be raised in the United States east of the Rocky Mountains.

CAUSE.

Your readers can readily understand that it is the position of Lake Michigan on the north and west of St. Joseph, that has made that vicinity so noted as a peach country. A difference of from 20 to 30 degrees in cold storms, will be shown between Chicago and St. Joseph, in favor of the latter; but if the lake were covered with ice, that difference would not exist. It is the temperature of the water which is warmer than freezing point, (or it would be ice), which tempers the winds and saves the fruit. Blossom buds have been killed occasionally, and several times there has been damage to the wood of peach trees, in this section, but never when there was no ice in the lake.

WHAT BALANCES OUR HIGH LATITUDE.

We have more favorable conditions of water in Lake Michigan and Traverse Bay. In the broad part of the lake, from Grand Haven around the south end to Milwaukee, the water, as compared with that portion lying north of point Sauble, is shoal; deepening outside of the bar, as a general rule, from one to two fathoms to the mile, towards the center of the lake, giving about sixty-five fathoms for the deepest or central part, which will be perceived gives many square miles along the shores, of quite shoal water.

When winter sets in, a heavy wall of ice forms on the bar around that portion of the lake, and in cold snow storms, large fields of ice form of the shoal water, so as to cover the water several miles from land, and frequently out of sight from the highest shores. On the other hand, the north part of the lake is very deep; 200 fathoms, or 1,200 feet, having been found, with generally a bold shore; while Traverse Bay itself is much deeper than the south part of the lake, 203 fathoms being given in it by the U. S. coast survey, showing also a remarkably bold shore. So it sums up; for the south part of the lake, no very deep water, and much shoal water on the shores; for the north part, very deep water, with little shoal on the shores. On this deep water in lake and bay, ice is slow to form, and never

forms to any great extent, until the latter part of winter.

The cold storm of December last, made large fields of ice in the south part of the lake, closing the harbors and covering the water out of sight of land at St. Joseph, where the writer saw it, but it made none in Traverse Bay; the thermometer on high land on the Bay, at that time, standing 12 degrees above, while at St. Joseph, 180 miles south, it was from 2 to 8 degrees below zero, and at St. Louis and Cairo 16 and 17 below at the same time.

The storm of January 1 and 2, 1864, did not freeze traverse Bay; so, too, that coldest of all, January 8 and 9, 1856, did not close the bay, but made the same boundless fields of ice in the south part of the lake as the first.

COURSE OF THE STORMS.

The North American Continent has three separate and quite different climatic regions. The great central basin, reaching from the Gulf of Mexico to the Arctic Ocean, is the one which concerns us. Every winter this is swept to the gulf, by fierce storms of wind and snow; from the northward, which storms take, as the center of their track, through this latitude, the Mississippi River. They are the coldest storms of the winter, sending the mercury to zero a long way down the great river, where in summer, they have almost a tropical climate.

HOW TRAVERSE IS FAVORED.

These storms always occur before the middle of winter, when the bay and this part of the lake are open, this bay never having closed before mid-winter. Similar, but milder storms, occur later. Those first mentioned, are the ones that have done the damage to fruit crops and trees in Southern Michigan and Illinois, though in Southern Illinois, peach buds are sometimes ruined by swelling in warm weather in winter, so that a moderate degree of cold following, kills them.

DOUBLY FAVORED.

When the fury of these storms has passed Lake Michigan, and is roaring on to the Gulf, we have invariably had a reflex action, so to speak, giving to the south part of this State, a less powerful, but colder wind, from the south west, the lower temperature of which is doubtless owing to the absence of any open water in its course.

Those are the times of greatest danger to peaches at St. Joseph, and are the only times that any damage has ever occurred to the trees in that section. By the position of the Traverse country and Lake Michigan, it will be seen that we are protected in such winds, by a long distance of open water.

These results can be seen on a different meridian. Go to Kalamazoo, where the peach trees look very badly from frequent winter killing, and travel northward. A gradual improvement will be seen to Grand Rapids, around which place they are in fair condition. Then continue north on the Newaygo state road, as far as the farming lands go, or to the pine country, and see there peach trees that can not be beaten for healthy appearance in any country.

There is a kind of cold that must not be confounded with the storms mentioned—That is the still and clear cold mornings, generally occurring in the latter part of winter, at which times the mercury frequently reaches the lowest point of the season.

These are not dangerous, except at a very low temperature. From 6 to 10 below in a storm is fatal to peach buds of the more tender varieties, and 14 will kill about all of the

most hardy; but in the still and clear cold of pleasant winter mornings, trees have been known to carry a part of their blossom buds through 22 and 24 below zero.

Whether it is owing to the dryness, or short duration, or both, of such cold mornings, that they are not so dangerous, is a point not well settled, nor is it material to this subject; the fact is well known to fruit growers.

We would say to those who think no good can come out of the north, that if they will look about the world, they will find many places where climate is only partially governed by latitude, and will see things as hard to believe, as that the extremes of winter here, are less severe than at Cairo and St. Louis.

WHY THIS IS A FRUIT COUNTRY.

In all the fruit regions within reach of the great markets of the Northwest, winter is the most dangerous season for, in addition to the loss of a crop by the killing of buds, the trees are sometimes damaged, and occasionally, as in 1856 and in 1854, many are destroyed. In speaking of this region in connection with the production of the tender fruits, we must be understood as referring mainly to the high land upon the shores of the waters. From what has been written, it will be seen that we are comparatively safe in the winter season; and the same influences render damaging spring frosts, at the points indicated, almost impossible after the 10th of May.

The frost on the 16th of May, last year, which will be remembered 200 miles south of here, did no damage about here, and was only to be found on those things which most easily show it. After much inquiry, I have failed to learn that the blossoms of fruit have ever been killed in spring. After a summer's sun has shone into these deep waters, which are as transparent as Lake George, it seems impossible to get a fall frost. The early frost that was experienced in Kansas, Missouri, Illinois and Michigan in 1868, was felt here, but did not stop vegetation.

In 1867, first killing frost was on the 18th of November, in 1866, it was on the 15th of November, and in 1865, it was on the 2d of December, giving as will be seen long seasons between frosts. The summer days here as in Minnesota are very bright and warm, while the nights, owing to the water surroundings, are a little cool, preventing sudden growths.

So that grape and peach rot are unknown, and giving the apples a firm texture, a sprightly flavor and a polished and brilliant appearance that can not be equalled elsewhere, at the same time making them the best keepers that can be found, and giving them the highest value as market apples.

HEALTH.

Though the severity of winter is tempered, as has been seen, our high latitude saves us from the sudden thaws, so frequent further south, giving to the winters an evenness rarely met with. The summers are bright and moderately warm. The land generally lays high, on which, standing water, swamps or marshes are not found, except where they are fed by springs. The atmosphere is bracing and free from malaria; and with the wide range of products, including all the best fruits, enabling the residents to enjoy the greatest variety in diet, so conducive to health, it seems reasonable, we think, for a person settling here, to expect what is claimed for this country, a perfect immunity from chills and fever, and such freedom from other diseases as will materially increase his chances of life.

GEORGE PARMELEE.

TEA CULTURE IN TENNESSEE—We have received from the plantation of Captain James Campbell, near Knoxville, Tennessee, samples of leaves of the Young Hyson tea plant. In size and general appearance these leaves resemble those of the peach, particularly of the Early York serrate, though they are tougher and glossier. The Knoxville Press and Herald says the plants were obtained through the Agricultural Department at Washington, in 1858; they grew well, and have attained a size of from five to eight feet. It gives the following description: "It belongs to the class and order *monadelphia polyandra*, and the natural order *ternstroemia*, is composed of various alternate branches furnished with elliptical, oblong, or lanceolate leaves, serrated toward the extremities, and of a smooth, shining green. It is an evergreen; the flowers appear in October, either solitary or two or three together, at the axils of the leaves, and from three-fourths of an inch to one inch in diameter, consisting of a green calyx with five or six lobes and a corolla, from four to seven white petals, with numerous stamens, yellow anthers, and pistils of a three-sided style." It has been supposed, hitherto, that there are two species, but this now seems not the case, and it is declared that the different kinds of tea are derived from the same plant at different stages of growth, and from a difference in manufacture. For instance, the finest green tea are produced from the young tender leaves, while the black tea are from old leaves. This is not a matter of speculation, but of actual experiment on the plantation above named; and those who have fancied that black tea had superior qualities must now see there mistake. Indeed, this might have been suspected from its inferior price.

From the experiments made in Tennessee it seems that the eastern part of that State is well fitted for the growth of this plant. There can be no doubt that parts of other Southern States, as well as large sections west of Arkansas, will be found equally favorable. There is one part of this subject not at once obvious, which, upon reflection, must be seen of no secondary importance; this is the obtaining of a superior quality. Reasonably, one may conclude that the greater part of the tea sent us, and which has been supposed good, is made inferior by adulteration or other manipulation. It has been said, it is true that the long sea voyage impairs the flavor of tea, and that when the Russians bring it over land its fine qualities are preserved; but if we grant to the Chinese only common civilization, and leave out of the question their alleged superiority, we should be doing them injustice not to suppose them as competent to adulterate tea as are we to adulterate whiskey which we provide for our Indians and politicians. The question, then, of growing tea in such parts of our country as shall be found suited to it, that we may be supplied with fine qualities, has an aspect entirely distinct from any of a financial or economical character, great as these undoubtedly are. In this view alone the enterprise is worthy of serious consideration, and every Free Trader, whom we may naturally suppose is a lover of good tea, will unite with us in hope that the experiment may be crowned with abundant success.—*New York Tribune*.

—In Italy they make paper, cloth, &c., of stone, or asbestos. They have discovered a process by which this mineral can be spun into thread, by hand, with the common distaff. The cloth and paper made of this material are not inflammable.

WHAT IS RED-SHORT, COLD-SHORT AND NEUTRAL IRON—We were much amused, a week or two ago in reading the following item in the *Green Bay Advocate*.

We learn that a vein of "neutral" iron ore has been struck at the New York mine, near Negaunee, L. S. The ore is different from any yet discovered in the Lake Superior region, and is regarded as very valuable. We are not mineralogist enough to describe neutral iron ore, but understand it to be of the consistency required for working readily without mixing with other ores—neither too "short" or not "short" enough.

As the *Advocate* seems to be very much interested in iron matters just now (we are much pleased thereof) we will try and explain the difference between "red-short," "cold short" and neutral iron. Red-short or hot short is brittle when hot, and hence it can not be easily forged or rolled, but is usually soft and ductile when cold.

Cold-shortness is the reverse of this; that is, cold-short iron may be forged under the heaviest blows of the hammer when hot, but is brittle when cold—hence it is unsafe for many uses.

A neutral iron would, of course, be between these two extremes; that is, a neutral bar could be wrought into any desired shape when hot and at the same time have strength and toughness when cold.

These terms belong to the refining of iron, and to its conversion into bars, rather than to smelting and foundry work. Metallurgists differ as to what produces these qualities.

Phosphorus in excess of, say one-half per cent, is found to produce cold-shortness, and sulphur often seems to make iron red-short, as also does silica.

For some foundry uses a certain amount of phosphorus is desirable, as it gives melted iron fluidity and long life; hence, from it may be produced fine, smooth, sound castings. Sulphur on the other hand makes cast iron viscid, and is liable to produce castings having air holes.

Lake Superior ores, without producing a decidedly red short iron, still incline to this property so much that it is desirable to have a small mixture of cold short ores or mill cinder to correct this tendency, in order to produce neutral iron.

Lake Superior ores being almost absolutely free from phosphorus and sulphur, we have to ascribe this red-short property to silica, which they are usually found to contain in small quantities.—*Marquette Mining Journal*, March 17.

FROSTED APPEARANCE ON GLASS—Who is there that has not, during cold winters, stopped to admire the beautifully symmetrical and yet fantastic figures of leaves and flowers depicted on the window panes of a well-heated room, the air of which is charged with aqueous particles? Epsom salts (sulphate of magnesia) dissolved in beer, together with a small quantity of dextrine (artificial gum), and in this state applied to a pane of glass with a sponge or brush, on crystallizing, produce the identical designs above alluded to; with this improvement, however, that the liquid may receive any color whatever, at the option of the operator. The ephemeral productions of frost may thus be easily perpetuated; but Mr. Kuhlman conceived the idea of going a step further and transferring those fairy-like creations to stuffs and paper. For this purpose he first got the crystallization on sheets of iron, on which he afterward laid

one of lead. By means of a powerful hydraulic press the minutest details of the figures in question were durably imprinted on the soft metal, and a copy of them in relief was then obtained by galvanoplastics. But here another difficulty arose. In the impression of cotton stuffs the pattern must be continuous; whereas in M. Kuhlman's plates the lines at one end would clearly not coincide with those at the other, so that disagreeable interruptions would be caused in the printed design. This obstacle, however, has been overcome in a most ingenious manner by effecting the crystallization on the cylindrical surface of a roller. A slight rotary motion to it will prevent the liquid from accumulating at any particular point before it has evaporated.

BRITISH STEAM ENGINES AND MACHINERY.—

The returns as to the exports of machinery and steam engines from the United Kingdom for the first 11 months of last year are sufficient to enable us to form a pretty good estimate as to the year's business. We sent last year fewer steam engines to France, Egypt, British India and Australia. Russia, however came to the rescue, and took our steam engines to the value of £200,537 in the 11 months ending Nov. 30th last year, as compared with £66,522 in the corresponding 11 months of 1867. The falling off in the demand for railway engines in British India rather seriously prejudiced the general result of last year's operations; to Nov. 30, however, we sent abroad steam engines to the value of £1,598,705, as compared with £1,829,578 in the corresponding 11 months of 1867, and £1,611,442 in the corresponding 11 months of 1866. In the year 1858 we only exported steam engines to the value of £1,097,278, so that the general course of this branch of our exports is onwards. The exports of general machinery showed very little variation, upon the whole, last year, but the case would have been otherwise but for the augmented demand from Russia.—*London Mining Journal*.

SAD CONDITION OF TRADE IN ENGLAND.—

Our English exchanges generally speak of the low condition of trade, particularly those in which cotton forms the staple of manufacture. In Scotland muslin weaving is extremely dull, and thousands are out of employment. The *Liverpool Post*, of the 22d ult. says that on the previous Saturday, in one district alone, 4,271 persons, 970 of whom were able bodied workmen, received parochial relief. Gloomy and distressing accounts of the homes of the operatives are given by those in the habit of visiting, and the prospect is in no respect reassuring. Where men, by association and otherwise, can manage to raise the means, they have determined to emigrate to this country; and one of the Manchester papers favors this movement, but warns such as may join it, that they had better leave their trade-striking theories and practices behind them as reports from Englishmen in America are not very favorable regarding their policy or success.

—The *Vicksburg Times* says that one fifth of this year's cotton crop has been sold for \$50,000,000, and that the remaining four-fifths may be made to yield the producers the magnificent sum of \$200,000,000. To insure this, it advises, planters shall sell no more than the sternest necessity and the strictest good faith require.

—The city of Boston has nearly fifty national banks, with a capital of fifty-three millions of dollars, or nearly one-ninth of the entire banking capital of the United States. The valuation of the city is five hundred millions of dollars, or about one-sixteenth of the entire property of the United States. Boston has about the same amount of property as Maine, New Hampshire and Vermont united. The annual sales of merchandise in Boston are one thousand millions of dollars, or three millions every day in the year. Fifteen hundred ships, barques and brigs arrived during the year 1868, and unloaded at the wharves of the city. Five hundred of these vessels brought cargoes of sugar and molasses. In some weeks twenty five thousand bales arrive at Boston.

—Senor Lemus, representative of the insurrection party in Cuba, has prepared some interesting statistics of the business and resources of that island. The annual trade carried on is over \$170,000,000. In 1862 the production of the island was \$306,000,000; taxes paid in, \$37,750,000; imports, \$57,400,000; exports, \$43,400,000. The rural wealth was then estimated at \$381,000,000; wealth of towns, \$170,000,000; industrial and commercial wealth, \$774,000,000. The productions in the same year were—sugar, \$62,000,000; tobacco, \$30,000,000; other items, \$37,000,000; total, \$129,000,000.

—The present crop of wheat in Australia is estimated at 6,000,000 bushels—4,000,000 bushels more than will be needed for human consumption.

The receipts of the Western Union Railroad Company, for the week ending April 14:

	1869.	1868.	Increase	Decrease.
Freight.....	\$6,476 10	\$7,392 78	.....	\$ 916 68
Passengers	3,771 52	3,101 75	\$669 77	.....
Express & Tel.	312 50	350 00	.....	37 50
Mail.....	375 00	375 00	.....	.....
Totals.....	\$10,935 12	\$11,219 53	\$669 77	\$ 954 18
Receipts from January 1, to April 14 :				
1869.....	\$158 400 17			
1868.....	\$147,138 94			
Increase.....			\$11,251 13	

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PROPOSALS WILL BE RECEIVED up to Saturday, May 1st, inclusive, for the GRADUATION, MASONRY and BALLASTING of the remaining 47 sections of this road, situated at intervals upon the 90 miles between Connellsville and Cumberland.

Specifications will be ready for distribution at the Pittsburgh and Cumberland offices on Friday, the 9th of April, and all information necessary to the proper examination of the work will be afforded by the Engineers upon the line.

By order of the President and Directors.

BENJ. H. LATROBE, Chief Engineer.

OFFICE PITTSBURGH & CONNELLSVILLE R. R. CO.,
Pittsburgh, March 18th, 1869. }

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BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF	PRICES.	SIZE NO. OF	PRICES.
NO. FORMS.		NO. FORMS.	
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 256	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

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L. WILLIAMS, Ass't Sup't, C. H. & D. R. R., Cincinnati,
J. H. WELLER, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAUREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton
C. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., India: at Aug 2, 1885.]

THE

STEAM SYPHON PUMP

IS THE

Most Simple, Effective and Durable Device for Raising Water by steam, yet discovered.

It is an independent LIFT AND FORCE PUMP, without piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP. WITH THE

STEAM SYPHON WATER-STATION

a locomotive can raise water, with its own steam, to fill its tender in the same times from an ordinary tank; thus dispensing with tanks, pumping machinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops, Shops, Elevators, &c.,

AND BY FAR,

THE BEST BILGE PUMP,

for Steam Vessels, in use

For Circulars and other information, address,

STEAM SYPHON COMPANY,
48 Dey Street,
NEW YORK.

VERY CHOICE

Oil Lands

IN

Kentucky & Tennessee,

FOR SALE BY

T. WRIGHTSON,

167 Walnut Street,

CINCINNATI

THROUGH —FROM— CINCINNATI TO NEW YORK

WITHOUT CHANGE OF
COACHES!

—VIA—
Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W. Railway, on Saturday Morning, by the 6:00 a.m. Lightning Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next day, Sunday.

2 Through Lightning Express Trains for New York, Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6:15 a.m.	7:10 p.m.
" Dayton.....	8:35 " "	9:30 " "
Arrive West Salem.....	1:50 p.m.	4:53 a.m.
" Leavittsburg.....	4:55 " "	7:35 " "
" Meadville.....	7:35 " "	11:10 " "
" Susquehanna.....	7:48 a.m.	11:29 p.m.
" Paterson.....	2:25 p.m.	6:03 a.m.
" New York.....	3:15 " "	7:00 " "
" Boston.....	5:45 a.m.	4:45 p.m.

Sleeping Coaches on Night Trains the entire distance between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday night instead of Saturday night. All other Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
} At Mansfield with Pitts., Ft. Wayne and Chicago Railroad.

THIS IS THE ONLY ROUTE

TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely new, of the most modern, substantial, and approved description, unequalled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all Trains.

Ample time is allowed, at all hours, for meals.

No effort will be spared by the Company to render a trip over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE CHECKS,

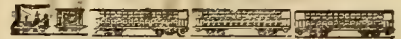
Apply in Cincinnati at New Depot of Cincinnati, Hamilton and Dayton Railway; or at the northeast corner of Broadway and Front streets, and at No. 80 Fourth street, nearly opposite Post Office. Also at any of the principal Railroad and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. RUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1885, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15 foot of Liberty street, North River, at 7:00 and 9:00 a.m. and 18:00 p.m. On Sundays, one Express Train at 7:00 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change; cars to Chicago or Cincinnati, and but two to St. Louis. Passenger front 75 East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines. State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. B.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m., Pittsburg 12 night

9:00 a.m.—MORNING EXPRESS for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 p.m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 7:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN from the West, leaving Pittsburg at 4:20 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at 7:09 a.m. Through cars from Pittsburg to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pittsburg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:52 a.m.; Allentown at 12:02 p.m.; Easton at 1:10 p.m. Through cars from Pittsburg to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing Reading at 10:40 a.m.; Allentown 12:20 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

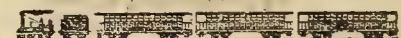
2:10 p.m.—FAST MAIL, from the West, leaving Pittsburg at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 6:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7:00 A. M.	9:10 A. M.
Springfield & St. Joseph Ex.....	12:00 P. M.	4:30 P. M.
St. Louis & Chicago Ex.....	4:55 P. M.	12:15 A. M.

Sleeping Cars by this train for St. Louis and Chicago.

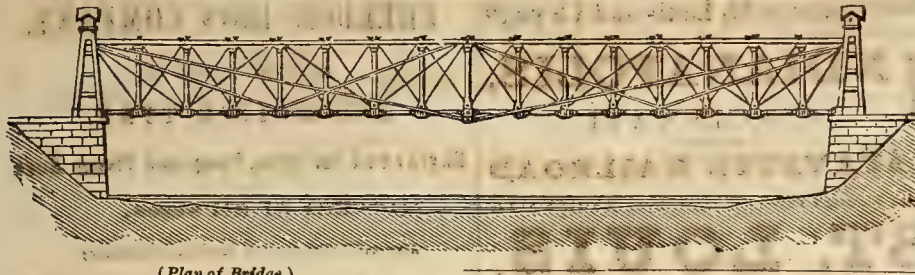
Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5:15 P. M.	5:05 A. M.
Harrison Accommodation.....	10:10 A. M.	2:25 P. M.

Through Tickets can be obtained at the Burnet House, Spencer House and Gibson House offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent

F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1392.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail and work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and construction of all the details. Our long experience and opportunity of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order, Wheels, Axles, Bowling or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings, every description of Copper, Sheet Iron and Boiler Work; and every article pertaining to the repair or renewal of Locomotive Engines.

KNOX & SHAIN,

ENGINEERING & TELEGRAPHIC

INSTRUMENT MAKERS

Philadelphia, Pa.

W. M. F. HEWSON,

STOCK BROKER,

21 WEST THIRD STREET, CINCINNATI.

Buys and sells Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collections.

AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

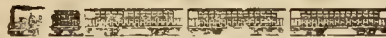
Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand-Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
S. E. Cor Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads, still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent,
Pittsburg, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

WITH

Productive Wells all

around them.

FOR SALE BY

T. WRIGHTSON

167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

—IN—

Railroad, Car and Machine Shop

SUPPLIES, mill & B

—AN—

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.

350 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and best material, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.

Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly to suit the customer for the celebrated Wheels, either single or double flange with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner, at the shortest notice, and on the most reasonable terms.

PASSENGERS

Purchasing Tickets via

Baltimore & Ohio R.R.

—TO—

BALTIMORE,**PHILADELPHIA,****NEW YORK, and****BOSTON,**

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON

Fare to Washington City same as to Baltimore.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
N. O. BROWN, General Passenger Agent.

Dec. '67.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; or at the new office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.

JANUARY 5th, 1868.**Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve. Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave " "	12 30 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave " "	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave " "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cin'tl,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine street, Corner Front and Broadway and at Depot, Foot Mill Street.

C. E. FOLLET Gen. Passenger Agent
J. W. CNLOGUE,
General Superintendent

Best Route to St. Louis and Chicago

INDIANAPOLIS,
CINCINNATI
—AND—
LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,
CAIRO,
CHICAGO,

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha
And all Rail and River Towns and Cities in the West, North west and South-west.

5 THROUGH TRAINS DAILY,

(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express.....	7 00 am	10 50 pm
Indianapolis and Cairo Express.....	6 30 am	2 30 am
Cairo and St. Louis Express.....	3 00 pm	4 08 pm
Springfield, Quincy and St. Joseph Express.....	3 00 pm	4 08 pm
Chicago Lightning Express.....	6 50 pm	11 30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11 00 pm	6 15 am

No change of cars between Cincinnati, St. Louis and Chicago.

Elegant Sleeping Cars on all night trains.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10 10 am	8 35 am
Harrison.....	5 30 pm	9 15 am
Lawrenceburg.....	4 45 pm	2 0 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

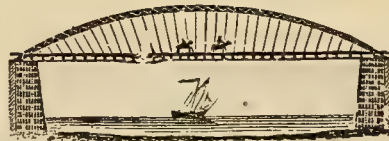
J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

MOSELEY'S WROUGHT IRON ARCH**BRIDGES.**

AND

CORRUGATED IRON ROOFS

[ARCHED AND FLAT.]



CORRUGATED SHEETS, OF ALL SIZES. Constantly on hand, painted, and ready for shipment, with instructions for applying them.

MOSELEY & CO.
Boston, Mass.

EDWIN J. HORNER,

Successor to

McDANIEL & HORNER,**Locomotive and Railroad****CAR SPRING MANUFACTURER,**

Wilmington, Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn**JOHN A. WRIGHT, Sup't.**

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works. June 9

THE SCHENECTADY**LOCOMOTIVE WORKS,****SCHENECTADY, N. Y.,**

Continued to receive orders and to furnish with promptness the best and latest improved

**COAL OR WOOD BURNING
LOCOMOTIVE ENGINES**

AND OTHER

Railroad Machinery, Tires, etc.

—AND ALSO TO—

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding their work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.

PASCAL IRON WORKS.

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas, Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1½ to 24 inches in diameter, and branches, for same, &c., Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS,

THOS. T. TASKER, JR.,

HY. G. MORRIS.

CHAS. WHEELER

S. P. M. TASKER

**Philadelphia, Wilmington & Baltimore
RAILROAD!**

**FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. (Express); 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave at Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD, } Editors
T. WRIGHTSON, }

CINCINNATI:
THURSDAY, APRIL 29, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street.
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square of the space occupied by ten lines of Nonpareil.	
One square, single insertion.....	\$ 1.00
“ “ per month.....	3 00
“ “ six months.....	12 00
“ “ per annum.....	20 00
“ “ column, single insertion.....	5 00
“ “ per month.....	10 00
“ “ six months.....	40 00
“ “ per annum.....	80 00
“ “ page, single insertion.....	75 00
“ “ per month.....	25 00
“ “ six months.....	110 00
“ “ per annum.....	200 00

Cards not exceeding four lines, \$5.00 per annum.

WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	
Columbus Accommodation.....	3:55 P. M.	10:35 A. M.
Morrow Accommodation.....	5:10 P. M.	8:00 A. M.
Lightning Express.....	8:30 P. M.	10:40 P. M.
Night Express.....		7:20 A. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:25 P. M.	5:20 A. M.
Hillshoro Accommodation.....	3:45 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:50 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.).....	7:00 A. M.	7:00 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Toledo, Detroit & Canada.....	7:10 A. M.	10:45 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Lima, Ft. Wayne & Chicago.....	7:10 A. M.	10:45 P. M.
do do do.....	2:30 P. M.	5:10 P. M.
do do do.....	7:10 P. M.	7:00 A. M.
Sandusky, Cleveland & Buffalo.....	7:10 A. M.	7:00 P. M.
do do do.....	5:45 P. M.	10:25 A. M.
Connersville & Indianapolis.....	7:10 A. M.	10:45 P. M.
do do do.....	2:30 P. M.	5:10 P. M.
do do do.....	5:00 P. M.	10:45 A. M.
Hamilton, Eaton & Richmond.....	7:10 A. M.	10:45 P. M.
do do do.....	5:00 P. M.	10:25 A. M.
Hamilton Accommodation.....		8:05 A. M.
do do do.....		6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

Connersville, Rushville and Indianapolis Mail.....	7:00 A. M.	10:45 P. M.
St. Louis, Indianapolis & Connersville & Rushville Express.....	2:30 P. M.	5:10 P. M.
Cambridge City and New Castle.....	7:00 A. M.	10:45 A. M.
Cambridge City and New Castle, Express.....	5:00 P. M.	10:45 A. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	6:30 P. M.
Express Mail.....	8:20 A. M.	7:20 P. M.
New York Express.....	8:00 P. M.	10:40 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	6:30 P. M.
Springfield Express.....	3:00 P. M.	4:20 P. M.
St. Louis Express.....	11:00 P. M.	1:10 A. M.
Lawrenceburg Accommodation.....	10:30 A. M.	2:35 P. M.
do do do.....	4:30 P. M.	8:30 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	4:20 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:35 A. M.
Harrison Accommodation.....	5:50 P. M.	7:37 A. M.
Chicago Night Express.....	9:50 P. M.	10:32 P. M.

OHIO AND MISSISSIPPI.

St. Louis, Cairo & Louisville (Sundays excepted).....	7:50 A. M.	12:10 A. M.
Louisville Special Train (Sundays excepted).....	4:25 P. M.	11:45 A. M.
Louisville, St. Louis & Cairo Daily Express.....	7:10 P. M.	6:00 A. M.

ATLANTIC AND GREAT WESTERN RAILWAY.

Lightning Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	7:10 P. M.	7:00 A. M.

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

Our New Railroads and their Advantages. Baltimore Strikes for Mackinaw.

In an article a few days since, we traced out the advantages of the Mackinaw road, and the probability of its completion. Perhaps it will be interesting to notice several roads, that Ohio is either making or likely to make:

1. The Cincinnati & Mackinaw line, as we stated, proceeds from Dayton via Greenville through Mercer and Auglaize Counties, to Van Wert, and thence to Amboy on the State line of Michigan. This will be in Ohio, a new line of railroad of 100 miles. From Amboy it will proceed through Lansing to Mackinaw, as we have formerly described it. The effect of this line will be to make a North and South arterial line from Cincinnati to Mackinaw.

2. The Hocking Valley Railroad, Although comparatively short and local, this will really be one of the most valuable and useful in the State. The effect of it is to penetrate the best coal and iron region in Ohio, and transfer so far as they may be needed, their valuable deposits to the Central and North-west of the State.

This road is correctly called the Hocking Valley Railroad, for it lies in the valley of the Hocking, and will drain that narrow, but rich district. It commences at Columbus, proceeds South-east, till it strikes the Hocking, then to Lancaster, Fairfield County, then to Logan, Hocking County, and thence to Nelsonville and Athens, where it joins the Marietta road. It will be seen at once that this makes an avenue for the Baltimore & Ohio road to the North-west. This is absolutely necessary for that road. But the Hocking Valley Railroad will be amply sustained by its own local business. It will be 85 miles in length, more than fifty miles of which will be in the richest of the coal and iron region. In Athens and Hocking Counties, there are seven extensive furnaces, a part of which are on the road. At Chauncy, Athens County, are unlimited supplies of salt water, and there is really no reason why salt enough should not be made there to supply the interior of the State. In Athens County, also, lies the finest beds of coal. In fine, it is perfectly evident, this road will have enough to do without going abroad. By the the energy of the Company, this road is nearly finished, and we presume in a few weeks will be in operation.

3. The Columbus & Toledo Road. We give it this name, although the plan has not yet taken a specific form. Several meetings, and one or two conventions have been held on this subject. It is evident, that a road North-west from Columbus to Toledo is such a necessity to the Baltimore road, and to the city of Toledo, that it must soon be made. A great deal of interest along the line has been manifested, and the advent of active measures is probably only waiting the initial to be taken by the Baltimore road, and the comple-

tion of the Hocking Valley Railroad. This road, when made, will probably be on a nearly direct line through Findley, Hancock County, to Toledo. The map will show that it will cross almost at right angles, several important roads, and thus be sure of much local traffic. But, to Toledo it will insure an ample supply of coal and iron, on the most direct line, while it also furnishes an outlet to the Southern seaboard by the way of Baltimore.

4. The Toledo and Saginaw Road. This is, in fact, another road to Mackinaw. Provision has been made for a road from Saginaw to Mackinaw. Then the road from Toledo to Saginaw will be one link, another will be the road from Toledo to Columbus, and thus, the Baltimore & Ohio Railroad will have a grand arterial line made up thus: Baltimore to Parkersburg, Parkersburg to Athens, Athens to Columbus, Columbus to Toledo, and Toledo to Mackinaw. This will be a grand line for Baltimore, worthy of the energy and ambition of that thriving city. It will, in fact, put Baltimore decidedly ahead of other Atlantic cities. Look at it, Baltimore is the first city reached on tidewater; hence, she crosses the mountains on the shortest line, goes through the very center of Ohio, crosses the upper end of Lake Erie, and strikes Mackinaw, the central point of the lake system, and will there connect with the Northern Pacific. Examine the map and you will see that from the center of the lake system to Baltimore by this line is probably the nearest line to tidewater. This project, at least that part of it which relates to a North-west road through Ohio, has been entertained by the shrewd managers of the Baltimore Company for many years. It was designed when the plan of the Marietta road was first formed, to make a branch through Columbus, up the Hocking Valley, and probably the thoughts of the first managers were turned towards the great North-western basin. But, great works and great schemes require time, and also great capital, so they move slow. The next half dozen years are to be years of great activity and enterprise. We believe this work, as well as others we have described in these columns will be made in a comparatively short period. So evident is it, that Mackinaw is the great natural, and will be the future commercial center of the vast inland ocean trade, which must soon come, that we expect to see the great Atlantic railroads heartily striving to reach there as they now do to reach Cincinnati, Chicago and St. Louis. Of course this seems very sanguine, when we consider that Northern Michigan now lies in woods. But, America is rapidly getting peopled, and nature determines the great sites of cities. Lake Superior, Huron and Michigan are the Mediterraneans of America, and around them will gather people, civilization, arts, commerce and political power.

The Cincinnati & Mackinaw road will be made, and if it be continued by our South-

ern road to the Southern Atlantic, it will be the greatest artery of commerce in this country. Of course we do not expect those who see nothing in the future to see this; but who, a little while ago could have predicted the railroads, the population, the powers of Ohio to day? Who will venture to say, that the region of the lakes will not be equally populous and powerful? The coming generation will see wonders performed around the shores of the lakes.

Blue Ridge Railroad.

CINCINNATI TO CHARLESTON.

By reference to an advertisement to be found in another column of our paper, it will be observed that the State of South Carolina is making preparations, "with a right good will" to meet the effort of our citizens to unite the cities of Charleston and Cincinnati by a direct railroad communication. The Blue Ridge Railroad is the favorite scheme of internal improvement of the State of South Carolina, designed to connect Charleston with the West, through Knoxville, as the terminal point. The war put a stop to the progress of the work. The State has already invested about two-fifths the entire cost; and during the last session of the Legislature provision was made to use the credit of the State to complete the road. Push ahead the work, Cincinnati is coming down to meet you! At any rate we don't mean to cease our efforts until it is done.

The correspondent of the New York *Herald* from Mexico City of date of April 10, says: "The Government was notified on March 27, of the departure of the Engineering party from New York, to survey the proposed railroad from the Rio Grande to Guaymas."

CAMDEN AND ATLANTIC RAILROAD—At date, January 1, 1869, the capital and debt of the Camden and Atlantic Railroad Companies were in these amounts, to wit:

Capital Stock paid in.....	\$1,109,405 70	
Funded debt.....	1,063,179 60	
Floating debt.....	139,481 65	
Total capital and debt.....		\$2,314,066 95
Length of road from wharf in Camden to inlet at ocean.....		61 miles.
Average cost per mile.....		\$37,935

Practically, the road terminates on the Philadelphia side of the Delaware river, by a Ferry from Cooper's Point to Vine street wharf, a central and eligible location, in the middle of the port.

Biennially, commencing with 1864, the earnings, expenses and interest payments of the company, compared as under:

	1864.	1866.	1864.
Receipts.....	\$325,040 84	\$303,975 22	\$231,466 11
Expenses for working the road, including repairs, maintenance of way, motive power and contingencies.....	190,095 51	174,105 70	160,359 95
Net earnings.....	\$134,345 33	\$129,869 52	\$71,106 16
Int paid during year.....	\$95,857 45	\$123,554 02	\$73, 07 78

The operating expenses for year 1868 were 58.66 per cent of the receipts.—*Mining Reg.*

Cincinnati & Mackinaw Railroad.

From the Clinton Republican, April 16.

A large meeting of the citizens of Ingham, Clinton, Gratiot and Isabella counties, was held at Hick's Hall, in this village, yesterday, for the purpose of taking some action in relation to the proposed railroad from Lansing to St. Johns, and thence north to intersect the Flint & Pere Marquette railroad. All the points interested were largely represented, and the greatest enthusiasm prevailed. Judge Borland, of Lancaster, O., was called to the chair, and Mr. J. L. Paldi, of this village, appointed secretary.

On motion, a committee of four, consisting of Gen. Spaulding, of this village, John Jeffrey, of Gratiot, L. Bentley, of Isabella, and S. D. Bingham, of Ingham, was appointed to select one vice president for each county, who reported the following gentlemen: Isabella, I. A. Fancher; Gratiot, John Jeffrey; Ingham, Dr. H. B. Shank; Clinton, Chas. Kipp.

On motion, a committee of two from each county, as follows, was appointed to draft resolutions: Ingham, S. D. Bingham, Judge Chapman; Clinton, David Scott; R. S. Van-Scoy; Gratiot, Luther Smith; Jas. Gargett; Isabella, L. Bentley, Myron McLaren.

Mr. Winton made an effective speech in support of the road, and gave a sketch of the business and trade of the region through which it will pass. He went rather far in linking the project with the Northern Pacific railroad, as a thoroughfare to China, but as there are no impossibilities in these days of progress and all-conquering science, we unhesitatingly "indorse the sentiment."

Mr. Fitch, of Albion, said the people of his section were ready to join our road, at Lansing with their southern line. Judge Hart, of the same place, said he was pleased to see the earnest spirit manifested by this convention, in behalf of this railroad enterprise. He gave the audience a brief sketch of the prospects of the road from Lansing to Albion, and southward, and had no doubt it would be ironed from Albion to Jonesville the present season; while the people of northwestern Ohio were anxious to extend the line further south, and obtain a more direct connection with Cincinnati.

Mr. Frond hoped that the silence of the meeting would not be taken as indicative of a lack of interest, but rather as the result of a lack of experience in railroad matters. Dr. Shank said the Judge must not be "scared." The stillness was but the prelude to the storm which would burst upon the country as soon as the work was to be done. To which the Judge pleasantly replied that he hoped there would be no tornadoes, no explosions, no earthquakes, no changes of the earth—except a little line of earth-work extending from Lansing northward to the Straits of Mackinaw!

Mr. Walker, an old gray haired pioneer, and a leading citizen of St. Johns, who left his sick bed to testify his interest in the project, made a brief speech, and was followed by Mr. Wilkinson, who discoursed of the great advantages, not only to St. Johns, but to all the country along the line, of the construction of this road. He was willing to be taxed ten per cent, or even twenty per cent, on the valuation of his property, because he knew the road would enhance the value of that property so as to give him two dollars for one—and this was true of every man along the line of the road.

Gen. Ely, of Gratiot, said that, in company with others, he had canvassed his county for

subscriptions, and found the people everywhere alive to the importance of the road and ready to do their part toward its construction.

Mr. Baker, of St. Johns, alluded to the great improvements made in this section during the past few years, and though the same ratio of increase in subsequent years would enable us to pay the debt incurred in building the road very easily. He assured the convention that St. Johns was ready to foot her share of the bill of expense of constructing the road.

Mr. Fancher, of Isabella, spoke of the country along the line of the proposed road, and challenged any one to point to a finer agricultural region than that extending from Lansing north for one hundred miles. The route was on the backbone of watershed of the State, and would open up an immense trade in lumber and produce.

The committee on resolutions returned, and through their chairman, Mr. Bingham, reported a set of resolutions, which, after an animated discussion, in which many facts and much information was elucidated, were adopted, as follows:

Whereas, The building of a railroad from the city of Lansing north-west through the counties of Clinton, Gratiot and Isabella, to some connecting point on the Flint & Pere Marquette railroad, to be hereafter designated, a distance not to exceed 80 miles, is of vital importance to the present and future prosperity of the whole territory adjacent to said road, and must greatly enhance the value of both real and personal property, and in every way promote the welfare of the people, advance the settlement and development of a fertile section of country, giving the benefits to all of a competition of freights, and of the most direct and cheapest route between the producer and consumer of lumber and other products; therefore,

Resolved, As the same sense of this convention, that the line of said railroad shall be north from the city of Lansing, through, or as near as may be deemed practicable by the board of directors, to the villages of De Witt, St. Johns, Ithaca, Alma, St. Louis, Salt River and Mt. Pleasant, thence north to some point on the Flint & Pere Marquette railroad, to be hereafter selected.

Resolved, That a committee of one from each town and two from each village and city upon said line, be appointed by the chairman of this convention, to act as a committee to procure all possible subscriptions that can be obtained, and the collection of five per cent when \$1,000 per mile for the whole line is subscribed.

Resolved, That a meeting be called at as early a day as possible, at St. Johns, for the permanent organization of a company, and that the President and Secretary shall have power to call such meeting.

Resolved, That a corresponding secretary be appointed in each village on the line, to report to the meeting of this convention matters of interest in relation to the building of the road.

The receipts of the Western Union Railroad Company, for the week ending April 21:

	1869.	1868.	Increase.	Decrease.
Freight.....	\$4,681 61	\$6,732 81		\$2,051 20
Passengers.....	3,286 45	3,244 65	\$ 37 20	
Exprs & Tel.....	312 50	350 00		\$ 37 50
Mail.....	375 00	375 00		

Totals..... \$8,655 96 \$10,697 46 \$ 37 50 \$2,078 70

Receipts from January 1, to April 21:

	1869.	1868.	Increase.	Decrease.
1869.....	\$167,145 03			
1868.....		\$157,836 40		
Increase.....			\$ 9,308 63	

Railroads.

THE BOARD OF TRADE—ADDRESS BY W. H. CRAIG.

The following address to the Board of Trade has been prepared and will be submitted by W. H. Craig, Esq.:

To the Board of Trade:

The interest Detroit has in railroads depends upon what they promise to add to her commercial, mechanical and material prosperity. Parallel roads passing through territory already tributary to Detroit are of no especial benefit to her, unless the avenues already open discriminate against her interests in their tariffs. No one in his right mind or of experience will question for a moment but that the roads now passing by way of Detroit do so discriminate against Detroit and her interests.

Both the Detroit & Milwaukee and the Michigan Central have arranged their tariffs so that the Detroit merchant may not (unless at greatly enhanced cost) buy or sell the products of the soil tributary to Detroit unless he shall pay a large percentage to these roads over what the New York or Boston merchant is required to do. This is explained when we consider that both of these roads are owned and controlled by parties living and owning roads to the east of Detroit, whose interests dictate that they should discriminate against Detroit, and in favor of eastern cities and roads.

So great is this discrimination, that Detroit is fast being supplanted in the trade of the interior of our State, and even in that portion lying near here. For instance, one of our citizens last fall bought his goods in Boston or New York, the freight of which was 23c per 100 lbs. At the same rate of freight it would have been 26c to Saginaw. He ordered the goods forwarded to a point short of Saginaw, and was charged 55c per 100 lbs. from Detroit to the point of destination, which was less than 75 miles from Detroit. Nearly the same discrimination is exercised against Detroit on freight bound east by both the Michigan Central and the Detroit and Milwaukee roads.

This discrimination has and is paralyzing the commercial prosperity of our city. Our general prosperity, commercially, is not keeping pace with the growth of the State—and why? The answer is short and conclusive: We are isolated from the productive country; we have open no avenues by which the country can reach us except against ruinous discriminations.

Much of the territory lying to the north of Detroit and east of the D. & M. and Flint & Pere Marquette Road—between Detroit and Bay City—is under a high state of cultivation, well settled and very productive. Much of the balance is covered with valuable pine timber. This territory, which embraces 5,220 square miles, and is larger than the State of Connecticut, two thirds as large as the State of Massachusetts, and larger than Rhode Island and Delaware together, has no railroad facilities, and will be tributary to the first road that will offer it transportation facilities to market, whether at Detroit or any other point. The distance from the D. & M. and Flint & Pere Marquette Road to Lake Huron is about 60 miles. The Northern Michigan Road Passes through this territory from South to North, or from Detroit to Bay City by way of Almont, touches a point half way between the Flint & Pere Marquette Road and Lake

Huron, it being 30 miles west to the railroad, and 30 miles east to lake Huron, thus insuring for Detroit the larger share of the vast products of this territory, provided this road is constructed. If this road is not constructed or is allowed to slumber, other roads not leading to Detroit will occupy this territory, some of which are already under construction, and others projected and organized, but none of which terminate or lead to Detroit or promise her any advantage or prosperity. Instead they will divert the trade promised us to other and rival points.

From East Saginaw to Port Huron is 84 miles; from Port Huron to Suspension Bridge is 170 miles by railroad; or 254 miles from East Saginaw to Suspension Bridge. From East Saginaw to Suspension Bridge via Detroit is 328 miles or 74 miles further than via Port Huron, and the same is true of the distance to Buffalo either by the Grand Trunk or Great Western Railway, and as true of Bay City as of East Saginaw, only the difference is 77 miles in favor of the Port Huron route to Buffalo.

If the Saginaws and intermediate country have to build this road at their own cost and expense, it is to be supposed they will build by way of Detroit, thus increasing their distance to the eastern market 74 or 77 miles, meeting the same railroad connections at either route through Canada via the Great Western and Grand Trunk? Does Detroit hold out sufficient inducements to cause them to do it? Again, from Detroit to Bay City or East Saginaw is 15 miles further than from Port Huron to Bay City or East Saginaw, and over this country a road to Detroit would cost \$300,000 more to build than to Port Huron, the point where the connection is made with the Canada roads. One or both of these outlets the Saginaw Valley will have, and if Detroit would be an objective point on this line, Detroit must not longer sleep in her complacency.

The distance from Detroit to Bay City by the surveyed line of the Northern Michigan road is 101 miles. Parties on the line of this road outside of Detroit have promised to contribute between \$500,000 and \$700,000 for its construction, about one-half of which will be a donation. If Detroit will take stock to the amount of \$200,000, and donate the sum of \$300,000 or \$400,000, it will place this road on a sure and permanent basis, and ensure its speedy completion. It is estimated that there is timber enough on the line of this road and tributary to it, to require a train of forty cars daily for the next 10 years to bring it to market, besides the vast products of the soil. We must add to this the large waterpower on the line of this road with the patronage promised at Bay City and Wenona. There is not in the State of Michigan so much promise of patronage to a railroad leading to Detroit from any direction, or one that promises Detroit more.

An offer is made to the Northern Michigan Railway Company of the land grant and franchises of the road leading from Wenona to Mackinaw, together with the promise of large subscriptions to the stock of said road by parties holding these franchises, provided assurances are given that the road shall be completed to the Straits of Mackinaw. From Bay City to the Straits of Mackinaw is 160 miles. The land is level or undulating, much of it of great fertility, which, when opened up by a railroad, will invite a vast agricultural population to improve and cultivate the soil, and this is, in addition to the vast patronage promised the road from the products of

the forest. It is estimated that 300,000,000 feet of timber has been cut and hauled this winter on streams intersected by this road north of Wenona, which required three thousand men and 1,500 teams; all of which, or nearly so, would pay tribute to this road when built. We must also consider the large amount of lumbermen's supplies necessary to be transported into the woods.

The rivers intersected and made tributary to this road are the Kan Kaulin, the Pine, the Rifle, the Upper Tittabawassee, the Upper Muskegon, the O'Grey, the An Sauble, the Munistee, the Thunder-bay and its branches, the Sheboygan and its tributaries, on all of which extensive lumbering is being done, which will last for many years to come. The average distance from this road to the Flint & Pere Marquette Road north from Bay City is more than fifty miles, and both make different connections at the North and West. The Flint and Pere Marquette Road is not, and is not expected to be tributary to Detroit or to minister to Detroit commerce. It terminates nearly 50 miles from Detroit, and its objective point when the Monroe & Holly Road is completed is Toledo and the State of Ohio, where the large lumber products of the Saginaw Valley seek a market. It leaves Detroit some 20 miles to the east of its line and completely flanks this city on the West.

Again a road is already organized from East Saginaw to Port Huron, which forms a direct eastern outlet for the Flint & Pere Marquette Road, thus flanking Detroit on the north and east. This road to Port Huron is 15 miles shorter than to Detroit, and can be constructed at a less expense by \$300,000 than to Detroit. For these among other reasons the best interests of Detroit demand that the Northern Michigan Railway should be constructed, and that at an early period, and that every well-wisher of Detroit and of her prosperity should favor it in every reasonable way. The holders of the franchises and land grant from Bay City to Mackinaw propose to give over to, or to consolidate with, the Northern Michigan Railway, besides taking liberal amounts of stock in the same after consolidation, and will vote to locate the offices and machine shops at Detroit, and place the same under Detroit control. No road built or projected, terminating at Detroit, promises near half so much commercial and material advantage as this; to secure which Detroit must act, and act promptly.

This road will be the first section of a grand trunk line of railway linking us to the Upper Peninsula, and connecting us with the proposed Northern Pacific Railway, and forming the only feasible Eastern outlet for the vast trade and travel over that line. It will also give us a vast local trade for a distance of 500 miles through Michigan, and we shall be the only commercial city of any great importance on the line, and the objective point for all Eastern bound freight and travel from the Pacific Ocean by this route. May I ask that your action and expressions in regard to this great enterprise may be such as become sagacious, shrewd, commercial gentlemen, and friends of Detroit and her prosperity?

I have the honor to be your obedient servant,
W. H. CRAIG.

SALE OF THE HUDSON BAY TERRITORY.—Information has reached the company's officers in Montreal that the stockholders have agreed to accept Lord Granville's proposal of \$1,500,000 for their claim to the British Possessions. This extends the Dominion to the Pacific coast.

The Ferguson Railroad Bill.**CHAMBER OF COMMERCE MEETING.**

At the close of the regular session of the Chamber of Commerce on Saturday the committee which had been appointed in reference to the Ferguson Railroad Bill, in accordance with the direction of the Chamber given them on Friday, submitted the following report:

"To the Chamber of Commerce:

"Your committee appointed to consider and report upon the bill recently submitted to the Legislature of this State, proposing to authorize cities of a certain class to construct railroads, and known as the Ferguson bill, beg leave to report:

"That they feel called upon, under the circumstances, to recommend the approval of the bill, with a suggestion that it be so amended as to guard more thoroughly and carefully the management of any road that may be constructed under its provisions against the establishment and operation of influences that will pervert it from being what it is designed it shall be—a road in the interests of the city constructing it; and that can by such perversion make it subserve the purposes of powerful organizations which may be controlled by policies adverse, not only to the welfare of the city building the road, but to the country in which the road is located.

"JOHN A. GANO,
"J. L. KECK,
"SAM J. HALE,
"GEO. F. DAVIS,
"JOSEPH F. WRIGHT.

"April 24, 1869."

The report was, on motion, unanimously approved.

The Chairman said that the recommendation in the report applied to section 9 of the bill, referring especially to the control of the road after it shall have been completed.

In order merely to express their views as to this point, he said that the committee had taken the liberty of embodying them in the form of a new section of the bill, without asking any action upon it. The addition of this new section would render it necessary to cut off the latter half of section 9, and that the two sections—9 and 10—would then read as follows:

"Sec. 9. The said Trustees shall have power as fast as portions of the line for which they are Trustees shall be completed, to rent or lease the right to use and operate such portions on such terms as they may deem best, but on the final completion of the whole line such rights shall cease, and the rents and leases previously made shall terminate.

"Sec. 10. Immediately after the completion of the entire road, the said Trustees shall have power to lease for a term of not less than—years, nor more than—years, the whole line for which they are Trustees and all its appertaining property to such person or company as will conduct the local passenger and freight traffic of the road on a scale of prices equitably graduated according to distance, and as will pro rate for through passenger and freight business with all connecting roads at local and terminal points, upon a uniform basis, without discrimination between competing lines, and as will also conform to such other regulations as the City Council of the city owning the line may determine to establish. Such lease shall, for the faithful performance of the contract, give such secu-

rity as may be approved by the judges of the Superior Court of the city which shall own the line."

After the reading of this, Mr. Keck stated that he was misunderstood as to its approval. He did not think it was necessary that the original bill should be changed, as he was of the opinion that the provision that the City Council should establish the conditions of the lease was sufficient. He was opposed to any action that might possibly defeat the measure.

Mr. George F. Davis then stated that he was not satisfied to have the original bill remain as it was on that point. He believed that it would not do to leave the power in the City Council to control the destinies of the road, but claimed that positive conditions to guide that body should be incorporated in the original bill.

The President of the Chamber of Commerce then stated that as it was not designed to take action in reference to the suggested amendments, no further discussion was had, and the Chamber adjourned.

Chicago, Rock Island & Pacific.

This road is making a strenuous effort to have its way completed between Chicago and Council Bluffs, before the last spike is driven that is necessary to complete the Union Pacific between Omaha and Sacramento. We learn by the *Railway Review*, that the Company have purchased the locomotive which took the premium at the Paris Exhibition,—built at the Paterson Grant Works at a cost of \$100,000. It will, it is said, take the first through train to San Francisco. After it has performed this grand service it is expected to run between Chicago and Council Bluffs at 30 miles per hour.

The west extension proceeds with unabated vigor. President Tracy and Engineer Johnson have been personally present the past week directing and pushing on the work. The grading is done and a gap of but a few miles intervenes between the present terminus and Council Bluffs. Several gangs of laborers of fifty to a hundred each, are now busily engaged. The late rains have materially retarded progress, the soil being spongy and dissolving in mud under the influence of wet weather, and ground a well of frost combined. A continuous track will be laid this month, but the road will probably not be open to travel and traffic before June. The country is a rolling prairie with frequent gullies and deep divides, and every two or three miles a creek or river to be crossed. The three great essentials to rapid railroad construction; wood for bridges, stone for culverts, and gravel for ballast, have been difficult to obtain, the contractors having been compelled to transport them over long distances to the scene of operations. The amount of trestle work is considerable, and the bridges numerous—Musqueto Creek alone requiring 9 Howe Truss bridges of about 210 feet span each. When the road is finished through, and thoroughly ballasted (as it will be) the permanent way will be one of the best in the country in spite of the many obstacles in the nature and topography of the soil, which have required the best engineering and mechanical skill to overcome.

The Great Northern Route.

We have been placed in possession of some highly important facts concerning the prospects of the Northern Pacific Railroad, which will be perused with interest by all who are interested in that great enterprise. We are enabled to state, upon undeniable authority, that Messrs. Jay Cooke, J. Edgar Thompson, Thomas Scott, proprietors of the Mississippi and Lake Superior (better known as the St. Paul and Lake Superior) Railroad, recently had a protracted conference with the President, W. L. Banning, the result of which has been that orders have been given to push forward the construction of the Northern Pacific Railway, and that, in compliance with these instructions, the work will be commenced as soon as spring opens. The stock of the road will be divided into 200 shares, or such number as will enlist a sufficient amount of capital to carry the road into the valley of the Red River of the North, for which it is estimated \$10,000,000 will be required. This accomplished, they will then appeal with confidence to government for aid to carry the road beyond the Rocky Mountains. Preparations are already being made for commencing the work. It will be commenced at the head of Lake Superior, in accordance with the terms of the charter.

Arrangements have been made which will secure the completion of the road connecting St. Paul and Lake Superior during the present year. The line of this road extends from St. Paul to Du Luth, situated on the River St. Louis, a few miles from where it empties into Lake Superior. The completion of this important thoroughfare will be the beginning of the great revolution in the trade of the Northwest, to be finally consummated by the extension of the system to the shores of the Pacific.—*Detroit Post*.

MICHIGAN SOUTHERN RAILROAD EARNINGS DURING THE YEAR.—The annual report of the President and Directors of the Michigan Southern and Northern Indiana Railroad Company, for the fiscal year ending February 28, 1869, has just been made.

The report shows the road to be in a very flattering condition.

The earnings for the past two years have been as follows:

	Year ending Feb. 28, 1869.	Year ending Feb. 29, 1868.
From freight.....	\$3,024,612 24	\$2,721,249 80
From passengers.....	1,723,856 37	1,689,107 09
From mails.....	53,780 46	54,645 43
From express.....	128,874 86	185,538 09
From rents.....	23,764 34	22,772 90
From all other sources.....	59,220 44	62,886 20
Total.....	\$5,024,108 31	\$4,747,219 11
Operating expenses.....	2,978,078 61	2,866,387 50
Net earnings..	\$2,046,029 70	\$1,880,831 61
Increase in gross earnings.....		\$276,889 20
Increase in operating expenses.....		111,091 11
Increase in net earnings.....		165,198 09

—[*Detroit Free Press*.]

—For three years past the banks of England, France and Germany have contained \$500,000,000 of unused, idle capital. During the same period the stream of gold has been steadily flowing through numberless channels from the United States into the same insatiable coffers.

—It is announced that the Northern Pacific Railroad Company are about to commence the construction of their road at the western end.

Air-Line Railway from Louisville to Cincinnati.**COMPLETION OF THE TRACK-LAYING.**

[From the Louisville Courier, April 21.]

The completion of the track-laying on the Louisville and Cincinnati Railroad, which was effected last Sunday, not only unites two great commercial cities, but supplies a link to the main railway chain of the continent, without which the important ends and aims of the people now and hereafter, would fail of consummation. This virtual accomplishment of the work originated two years ago is, then, an event of the utmost significance. It is a source of earnest congratulation as much to the general trading worlds as to the State of Ohio and Kentucky. From no standpoint can it be treated as other than a national blessing. Conceding this, every one will, no doubt, follow us in a review of the whole subject.

HISTORY OF THE ENTERPRISE.

It is almost needless to state the universally known fact that the new road has been built under the auspices of the Louisville and Frankfort and Lexington and Frankfort Railroad Companies. So soon as the amendments to their charters were accepted by the stockholders, the proper steps were taken to secure a thorough survey of the country lying between Louisville and Cincinnati, with a view to the selection of the best route for the branch. These surveys were commenced in March, 1866, and five principal routes were instrumentally examined and reported upon by the engineers. The contracts for graduation and masonry were let in the latter part of February, 1867, but owing to the rainy season the work was not fairly commenced before the latter part of May. In February, 1868, the contracts for bridge superstructure were let to the Louisville bridge and Iron Company, and to Smith, Latrobe & Co., of Baltimore. Track-laying was begun in July, 1868, from three points, Lagrange, Worthville, (on the Kentucky River,) and the Licking River, at South Covington. Thenceforward the work progressed steadily, and with an unusual exemption from strikes, riots and destructive accidents.

THE ROUTE.

Leaving the Louisville and Lexington Railroad about three thousand feet east of the Lagrange Depot, and bearing slightly from its course to turn several branches of Harrod's Creek, the line crosses that creek on a favorable bridge site on the farm of William Smith, one and three-fourths mile from the point of divergence; thence ascending the slopes of Indian Run, it crosses the Little Kentucky Ridge near the house of Mrs. Pendleton, and, descending the slopes of that creek one and one-fourth mile, to its low grounds, the mouth of Sulphur Fork of the Little Kentucky. Then ascending the Sulphur Fork and Sakeray's Branch, the line passes Cammellsburg to the right, and around the headwaters of Doherty Creek, to the ridge dividing the waters of the Little and Big Kentucky. Passing through this ridge, with a short tunnel of 500 feet, it descends the thickly timbered slopes of Mill Creek, with the maximum gradient, about four miles, to the abrupt bend at Batt's old mill, where it again cuts through with a short tunnel, to avoid a detour of nine hundred feet, with heavy curvature and grading; and still descending the slopes of Mill Creek without

further noticeable features, it reaches the Kentucky bottoms, and, deflecting up toward the mouth of Eagle Creek, crosses the river at the most suitable bridge site in the vicinity, about one-fourth of a mile above Worthville. The line continues thence on the north side of Eagle Creek for fourteen miles up to the Elliston Gap, and thence into Ten-mile Creek, one of its larger branches from the northeast. The Eagle Valley is very direct; its bottoms average in breadth one and one-half mile, and the course of the creek through them is somewhat winding. The railroad line, cutting lightly through some of the spurs, holds a generally good course, and with favorable work. Good roads communicate with Owen and the interior counties. There are fine lands in the valley and upon its slopes; but the ridge country, as is generally the case in this section of the State, is more thickly settled and better improved than the bottoms. The towns and places of local note in and near Eagle Valley are New Liberty, Dallasburg, Sparta and Napoleon. Of all valleys on the Upper Eagle that of Ten-mile Creek is much the most favorable, in direction and gradients, in ascending and crossing the dividing ridge. The creek is bold, crooked, and with steep slopes, and heavy work was necessarily encountered to avail of its more important advantages. At the Elliston Gap it has been found advisable to accept a tunnel of about 650 feet, to save a detour of nearly two miles by the mouth of Ten-mile, with heavy graduation, bridging, and possibly one small tunnel on the longer line. Also, in passing up Ten-mile Creek it has been essential to cut through several spurs around which the creek turns abruptly, but there are also several miles of light bottom and slope grading. The slopes of Ten-mile as well as Eagle are thickly wooded with fine oak and locust, for cross-ties, contributing much to offset other drawbacks in the work. At the head of the north fork of Ten-mile the line passes Verona; thence, for six and a half miles of average ridge work, and crossing the headwaters of Mud Lick, with a very slight depression in grade, it strikes the head of Bank Lick Creek, one mile northeast of Walton, a thriving town on the Lexington and Covington turnpike, which here crosses the railroad line as a most important feeder for way business. Passing the ridge with a small summit-cut, the line descends Bank Lick with easy gradients, and for seven miles with very light work, crossing the Independence turnpike (macadamized) three miles down. For two miles further the graduation becomes a little heavier. Ten miles from Covington the stream suddenly changes its character, being for the next three miles very tortuous, with steep slopes, sharp bends and rapid fall. At the Fleming bend, nine miles from Covington, another tunnel cut-off is found practicable, which reduces the distance one and seven-eighths of a mile, the tunnel at the neck of the Horse-shoe being but four hundred feet in length. This work is upon the maximum grade, which continues two miles further, with two heavy fills and side cutting. Thence into Covington the location presents nothing difficult. The line passes through a very fine valley country, and is carefully placed to avoid undue damage to private property. Below the tunnel another excellent macadamized turnpike crosses the line, with a large and valuable country travel, and thence the railroad and turnpike run parallel, but generally on opposite sides of the creek, passing the Lintonia Springs three miles out from Covington, and thence for temporary purposes to a junction

with the Kentucky Central road at South Covington.

The measurements of the line give the following results:

	Miles.
From Beargrass Depot, head of Jefferson street, Louisville, to South Covington Junction, Kentucky Central Railroad	103.33
From Beargrass Depot to Ohio River, south end, Covington and Cincinnati suspension bridge	105.90
From Beargrass Depot to Ohio River, south end proposed Covington Railroad bridge	106.03
From Beargrass Depot to Ohio River, south end proposed Newport and Cincinnati bridge	106.90

The maximum curvature of the line is six degrees, or nine hundred and fifty-five feet radius. The maximum grade is sixty feet per mile—nearly twenty per cent. lighter than that of the Louisville and Nashville railroad, and still more favorable than the maximum gradients of the more distant connecting lines. As far as the Kentucky River, midway between Louisville and Cincinnati, the line runs parallel with and quite close to an air-line from Jefferson street, Louisville, to the Cincinnati Suspension bridge. From the Kentucky River eastward, while the air-line crosses the Ohio River near Warsaw, returning in a short distance to the Kentucky side, the line of this road pursues the two parallel valleys of Eagle and Bank Lick Creeks, the closest approach to the air line in our very broken country, which permits a railroad location with gradients so low as sixty feet per mile. This location, therefore, holds the vantage ground between Louisville and Cincinnati, the distance from the outer junction with the Louisville and Nashville Railroad to the Suspension bridge in Cincinnati, by the Kentucky route as completed, being at least thirty-three miles less than by the Indiana route via Seymour.

COST OF THE WORK.

On July 1, 1868, a careful recalculation was made, to determine the cost of the entire work done and to be done. The cost of over three-fourths of all graduation, tunnel-work, masonry, and superstructure, having been determined by actual payments, the revised estimate stood as follows:

Graduation	\$1,138,886
Masonry	301,326
Superstructure, bridge and track ..	1,516,924
Superintendence, &c.	107,265
Depots, sidings, and right of way ..	358,000
Equipment	511,000

Total cost to Covington (Tenth street)

And for the Newport line (including Licking River Bridge and grading to Cincinnati bridge head) ...

PUBLIC IMPORTANCE OF THE WORK.

The country traversed by or adjacent to the line is already populous and productive. The counties of Jefferson, Oldham, Henry, Trimble, Carroll, Gallatin, Owen, Grant, Boone, Kenton, and Campbell embrace an area of 1,274,500 acres of land, of which, according to the census of 1860, 776,592 were improved and 497,938 were unimproved. The aggregate value of the lands was \$29,288,562; and the average, ranging from \$12 per acre in Owen to \$65 per acre in Jefferson, was about \$31 per acre. The aggregate wealth

of the same counties in 1865, as reported by the Auditor of State, was \$102,662,827.

Among their principal productions of the same year are enumerated—of tobacco, 5,754,045 pounds; hay, 35,335 tons; Indian corn, 3,826,445 bushels; and wheat, 520,705 bushels. The number of white males over twenty-one years of age was 38,956, representing a total population of more than 230,000 souls. There can be no doubt that the construction of this road, by increasing the facilities of access to these counties, every portion of which will be brought within a ride of two hours from Louisville or Cincinnati, will cause a rapid and great increase in their population and production.

The estimates for the future earnings and expenditures of the new road have been made by Colonel Sam. G. Gill, the Superintendent of the Louisville and Lexington Railroad, as coming with special fitness and force from an officer long familiar with the country, and under whose working management for twelve years the Lexington Railroad has uniformly prospered. These estimates have reference to the present condition of the country, with out regard to its certain development in the future:

EARNINGS.

Through passengers,		
220,000 at \$3.....	\$660,000	
Way passengers, 150,000		
at 80 cents	120,000—	\$780,000
Express.....	\$50,000	
Mails.....	20,000—	70,000
Through freights, 100,-		
000 tons at \$2 50.....	\$250,000	
Way freights, 50,000 tons		
at \$3.....	150,000—	\$400,000
		\$1,250,000

EXPENDITURES.

Passenger trains...237,000 miles	
Freight trains.....150,000 miles	
Wood and ballast do 25,000 miles	
Total mileage.....412,000 at \$1 70	\$700,000
Net earnings.....	\$549,600

OPENING OF THE ROAD.

The first locomotive passed over the whole length of the road on Monday. It bore the Chief Engineer, and one or two others, whose object was to examine the work. All arrangements are being hurried forward to open the road for full business probably in June. Then will the Falls City and the Queen City strike hands over one of the greatest railway victories of the age, and the eyes of the commercial world will sparkle with joy at the spectacle.

CHEAP RAILROAD FARES.—The newspapers all over the country are exhausting their logic in advocating a general system of cheap fares. We know of no better illustration of the beneficial effects which would be sure to follow its adoption than is offered by the New York Central Railroad. By State law the through passenger rates are restricted to two cents a mile, yet by economy and good management the company has realized this past year on its capital stock of \$27,000,000 twenty per cent over all expenses. It is now one of the safest and most profitable investments in the country. What this company has effected can also be done by other similar stock companies with mutual profit to themselves and the public.

The Demand of the Hour—New Lines of Railroad for Toledo.

[From the Toledo Blade.]

The following roads should be constructed at the earliest possible day. First: A road from this city, eastward, to connect at some point yet to be determined, with one of the great arterial lines leading to the seaboard.

Second: A road from Toledo to Columbus placing us in close connection with the capital of our State and with the immense coal beds of the Hocking Valley.

Third: A road from Toledo northward to the State Line, so constructed as to form a trunk upon which may enter the trains of the Ann Arbor and Saginaw Road, and also those of the Monroe and Holley Road. The construction of this last road will give us the command of the Saginaw Valley with its vast supplies of salt and lumber. An examination of the map will show that upon the completion of the road to Ann Arbor, a short branch from Saline in Michigan to the north-west of about forty miles, will place us in close connection with the G. R. V. R. R. and give us an air line of iron track with the Grand River Valley, thus securing connection with that immense region which we have so long coveted. Toledo will then have that command of the State of Michigan which nature designed the City of the Maumee should possess.

The construction of the above roads will fix our commercial position beyond all fear of competition. It will give an impulse to our growth and prosperity such as we have never yet experienced.

To grant municipal aid to works of this character is no untried experiment for Toledo. Every dollar expended in this way has returned a hundred fold. In 1850, under the former Constitution Toledo subscribed \$50,000 to the stock of the Cleveland & Toledo Railroad Company, and a little later she subscribed \$60,000 to the stock of the Dayton & Michigan Railroad Company. At that time Toledo had a population of less than five thousand inhabitants, and the value of her property on the duplicate for taxation was not far from \$1,000,000. We now have a population of thirty-five thousand and the property of the city on the duplicate for taxation amounts to nearly \$9,000,000. This valuation is confessedly low and will be largely increased in 1871.

Eight hundred thousand dollars would be no heavier burthen for the city to carry now, than \$100,000 was in 1850. Yet two-thirds of that sum will enable us to push to completion the several railroad enterprises that now languish for aid. The \$110,000, which Toledo invested in railroad stock in 1850 and 1851, was raised by the issue of bonds, the payment of which covered a term of years, the increase of taxation necessary to meet these annual payments was scarcely perceptible, and the stock so taken, subsequently became of such value that the city was nearly if not fully reimbursed for the original expenditure.

Toledo could raise half a million of dollars to-day with still greater ease. Indeed it may safely be assumed that the increase of wealth and prosperity necessarily incident to the construction of the projected railroads will form a basis of taxation enough larger than will otherwise be reached, to fully meet the assessment.

A tax of five mills placed upon the property of the city, annually, will produce a sum sufficient to meet the interest upon all the bonds the city will need to issue, and will also pro-

vide a sinking fund for their repayment in a reasonable term of years.

There is much reason to believe that the annual income, which will arise from this expenditure in the construction of railroads, will be sufficient in a few years to entirely relieve the city from any burden in their behalf, and will finally become a source of profit.

The City of Cleveland in her municipality capacity, at an early day invested largely in the railroads leading to that city. A few years ago she sold her stock in the Lake Shore Road at an advance of \$350,000. Toledo is in a position to use her credit with equal profit to day. Shall she be permitted to do so?

THE PANHANDLE LINE.—The Panhandle Line will be the title hereafter of the railroads heretofore known as the Consolidated Pittsburgh, Cincinnati and St. Louis, and Columbus, Chicago and Indiana Central Railroads—a most wearisome and breath exhausting name, not at all significant of railroad speed, but rather of the length of the six or seven hundred miles of railroad which it denoted. The new name is not descriptive—it is taken from the "panhandle" of Virginia between Pennsylvania and Ohio, over which a section of ten or twelve miles of this road extends. But it has one transcendent merit: it is short. It is reported that passengers were secured for other railroads while the runners of the consolidated line were ejaculating the name of the Consolidated P., C. & St. L., and C., C. & I. C. Now their tongues are relieved.

We give below a list of the general officers of the consolidated line:

President—Thomas L. Jewett, of Columbus.
First Vice President—G. B. Roberts, Philadelphia.

Second Vice Pres't and Gen. Manager—D. S. Gray, Columbus.

General Freight Agent—C. W. Smith, Columbus.

General Ticket Agent—S. F. Scull, Columbus.

General Superintendent of C., C. & I. C.—J. M. Lunt.

General Sup't of P., C. & St. L.—W. W. Card, Pittsburg.

General Western Freight Agent—N. Stevens, Chicago.

General Eastern Freight Agent—James Means, Pittsburg.

Gen. Eastern Pass. Agent—J. H. Miller, 226 Broadway, N. Y.

Assistant General Passenger Agent—C. H. Wood, Cincinnati.

Assistant General Passenger Agent—N. E. Scott, Chicago.

All these officers, except Mr. Gray, have served the roads before the consolidation, and they remain in positions with which they are familiar, and for which they have proved their fitness. The track of the Columbus line will be very greatly improved during the coming summer. Work on the section between Chicago and Logansport will be commenced very soon. In a short time it is believed that the track will be equal to that of any road now entering Chicago.—*Western R. R. Gazette, April 10.*

—The Yantic Thread Company, of Fall River, Mass., are about to build a mill with 5,000 spindles for yarn spinning. The Fall River Manufacturing Company will build a new cotton mill on the site of the one burned last year, which will have 25,000 spindles and 6,000 looms, and will be able to turn out 6,000,000 yards of print cloths per year.

Joint Resolution for the Protection of the Interests of the United States in the Union Pacific Railroad Co., the Central Pacific R. R. Co., and for other purposes.

Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled. That the stockholders of the Union Pacific Railroad Company, at a meeting to be held on the 22d day of April, 1869, at the city of Boston, (with power to adjourn from day to day,) shall elect a Board of Directors for the ensuing year; and said stockholders are hereby authorized to establish their general office at such place in the United States as they may select at said meeting: *Provided*, That the passage of this resolution shall not confer any other right upon said Union Pacific Railroad Company than to hold such election, or to be held in any manner to relinquish or waive any rights of the United States to take advantage of any act or neglect of said Union Pacific Railroad Company heretofore done or omitted whereby the rights of the General Government have been or may be prejudiced: *And provided further*, That the common terminus of the Union Pacific and Central Pacific Railroads shall be at or near Ogden, and the Union Pacific Railroad Company shall build and the Central Pacific Railroad Company pay for and own the railroad from the terminus aforesaid to Promontory Summit, at which point the rails shall meet and connect, and form one continuous line.

Sec. 2. *And be it further resolved*, That to ascertain the condition of the Union Pacific Railroad and the Central Pacific Railroad, the President of the United States is authorized to appoint a board of eminent citizens, not exceeding five in number, and who shall not be interested in either road, to examine and report upon the condition of, and what sum or sums, if any, will be required to complete each of said roads for the entire length thereof to the said terminus as a first class railroad, in compliance with the several acts relating to said roads; and the expense of such board, including an allowance of ten dollars to each, for their services, for each day employed in such examination or report, to be paid equally by said companies.

Sec. 3. *And be it further resolved*, That the President is hereby authorized and required to withhold from each of said companies an amount of subsidy bonds, authorized to be issued by the United States, under said acts, sufficient to secure the full completion as a first-class road of all sections of such road upon which bonds have already been issued, or in lieu of such bonds he may receive as such security an equal amount of the first mortgage bonds of such company. And if it shall appear to the President that the amount of subsidy bonds yet to be issued to either of said companies is insufficient to insure the full completion of such road, he may make requisition upon such company for a sufficient amount of bonds already issued to said company, or, in his discretion, of their first mortgage bonds, to secure the full completion of the same, and in default of obtaining such security as in this section provided, the President may authorize and direct the Attorney General to institute such suits and proceedings in behalf and in the name of the United States, in any court of the United States having jurisdiction, as shall be necessary or proper to compel the giving of such security; and thereby, or in any manner otherwise, to protect the interests of the United States in said road, and to insure the full completion there-

of as a first class road, as required by law and the statutes in that case made.

Sec. 4. *And be it further resolved*, That the Attorney General of the United States be, and he is hereby, authorized and directed to investigate whether or not the charter and all the franchises of the Union Pacific Railroad Company, and of the Central Pacific Railroad Company, have not been forfeited, and to institute all necessary and proper legal proceedings; also, to investigate whether or not said companies have or have not made any illegal dividends upon their stock; and if so, to institute the necessary proceedings to have the same reimbursed; and also to investigate whether any of the directors, or any other agents or employees of said companies have or have not violated any penal law; and if so, to institute the proper criminal proceedings against all persons who have violated such laws.

Approved April 10.

An Act Providing for a Geological Survey of Ohio.

Section 1. *Be it enacted by the General Assembly of the State of Ohio*, That the governor is hereby required to appoint, by and with the advice and consent of the senate, a chief geologist, who shall be a person of known integrity and competent, practical and scientific knowledge of the sciences of geology and mineralogy; and upon consultation with said chief geologist and the like concurrence of the senate, the governor shall appoint one or more suitable assistants, not exceeding three in number, one of whom shall be a skillful analytical and agricultural chemist, and said chief geologist and assistants to constitute a geological corps; whose duty it shall be to make a complete and thorough geological, agricultural and mineralogical survey of each and every county in the state.

Sec. 2. The said survey shall have for its objects:

1st. An examination of the geological structure of the state including the dip, magnitude, number, order and relative position of the several strata, their richness in coals, clays, ores, mineral waters and manures, building stone and other useful materials, the value of such materials for economic purposes, and their accessibility for mining or manufacture.

2d. An accurate chemical analysis and classification of the various soils of the state, with the view of discovering the best means of preserving and improving their fertility, and of pointing out the most beneficial and profitable mode of cultivation. Also a careful analysis of the different ores, rocks, peats, marls, clays, salines, and all mineral waters within the state.

3d. To ascertain by meteorological observations the local causes which produce variations of climate in the different sections of the state. Also to determine by strict barometrical observations the relative elevation and depression of the different parts of the state.

Sec. 3. It shall be the duty of the said chief geologist in the progress of the examinations hereby directed, to collect such specimens of rocks, ores, soils, fossils, organic remains and mineral compounds, as will exemplify the geology, mineralogy and agronomy of the state; and he shall deposit said specimens, accurately labeled and classified, in a room provided by the state board of agricul-

ture, to be carefully preserved under the supervision of said board.

Sec. 4. It shall be the duty of the chief geologist, on or before the first Monday in January of each year, during the time occupied in said survey, to make a report to the governor of the results and progress of the survey, accompanied by such maps, profiles and drawings as may be necessary to exemplify the same, which reports the governor shall lay before the general assembly.

Sec. 5. When the said survey shall be fully completed, the chief geologist shall make to the governor a final report, including the results of the entire survey, accompanied by such drawings and topographical maps as may be necessary to illustrate the same, and by a single geological map, showing by colors and other appropriate means, the stratification of the rocks, the character of the soil, the localities of the beds of mineral deposits, and the character and extent of the different geological formations.

Sec. 6. The annual appropriations which may be made by the general assembly for carrying out the provisions of this act, shall be expended under the direction of the governor upon the certificate of the chief geologist, approved by the governor, and the warrant of the auditor of state, as follows:

For salary of chief geologist three thousand dollars.

For salaries of assistants, not more than eighteen hundred dollars each.

For chemicals, five hundred dollars.

For contingent expenses of the survey, including actual traveling expenses of the geological corps, and hire of local assistants, five thousand dollars.

Sec. 7. No money shall be paid for the purposes of said survey until the chief geologist and his assistants shall have entered upon the discharge of their duties as prescribed by this act.

Sec. 8. The survey shall be commenced by the first of June next, or as soon thereafter as practicable, and shall be completed within three years from and after the time of its commencement.

Sec. 9. This act shall take effect and be in force from and after its passage.

A. T. WALLING,

Speaker pro tem. of the House of Representatives.

J. C. LEE,

President of the Senate.

Passed April 3d, 1869.

The above act is of the greatest importance to the general interests of the State, and the appointment of Prof. J. S. NEWBERRY, of Columbia College, is a guarantee that the work will be well done. The only objection that we have to the act is that it is niggard in its appropriations. They should have been made on a more liberal scale. It would be worse than useless to have the work imperfectly done. The amount of compensation should be sufficient to warrant gentlemen of ability in devoting their time, so as to make the survey as complete as possible. Such a survey would point out and develop the mineral resources of the State, and would alike foster our mechanical as well as agricultural industries. To accomplish this, four times the sums above appropriated would be cheap, and unless it is so done, we might as well let it alone.

—A patent has just been granted in England for saturating jute, hemp, or fibre woven into other canvas, cloth, or in its manufactured state, with gutta-percha in a soft or liquid state, and pressing layers of such saturated fibre or canvas-cloth together while warm, so as to form a tough fabric of any required thickness which may be used for the soles and heels of boots and shoes, and for other purposes.

—The largest cotton crop ever made in the South was that of 1860. It sold in the markets for \$160,000,000 in gold—an enormous sum of money—and everybody declared that we were certainly the richest people under the sun. The cotton crop of 1868 is estimated at 2,500,000 bales, which at \$100 per bale, foots up to the gigantic sum of \$250,000,000—nearly \$100,000,000 more than was realized from the crop of 1860.

—An Eastern exchange says manufacturing in general is very active. Some of the textile mills are running overtime. Orders from the South are pouring in for almost everything that the North produces, from anvils down to carpet tacks, and from carpets to court plaster. The shoe factories have orders far ahead, while the saw makers are bothered to meet the existing demand.

BLUE RIDGE R. R.

THE attention of Contractors is invited to the work of completing the Blue Ridge Railroad, in South Carolina, from Anderson, South Carolina, to Knoxville, Tennessee—a distance of one hundred and fifty-two miles to build.

The Executive Committee of the Board of Directors is prepared to enter into negotiations with responsible persons, who may desire to undertake the work.

Payments will be made in first mortgage (7) per cent. currency bonds of the Company, secured by the guarantee of the State of South Carolina, for the punctual payment of both principal and interest. The mortgage covers unencumbered property of the Company, which cost three and a quarter millions of dollars in gold, and embraces fifty miles of road complete and in running order.

Detailed Estimates, Plans Profiles and Specifications, will be ready for inspection by JUNE 1, 1869. Meanwhile, approximate quantities and other information concerning the work may be obtained by application to Col. James P. Low, the Chief Engineer of the Company, or to the undersigned, at Columbia, South Carolina.

R. K. SCOTT,
Chm'n of Executive Committee.
29-4-9-5t.

TO CONTRACTORS.

Pittsburgh & Connellsville R. R.

PROPOSALS WILL BE RECEIVED up to Saturday, May 1st, inclusive, for the GRADUATION, MASONRY and BALLASTING of the remaining 47 sections of this road, situated at intervals upon the 90 miles between Connellsville and Cumberland.

Specifications will be ready for distribution at the Pittsburgh and Cumberland offices on Friday, the 9th of April, and all information necessary to the proper examination of the work will be afforded by the Engineers upon the line.

By order of the President and Directors.

BENJ. H. LATROBE, Chief Engineer,

OFFICE PITTSBURGH & CONNELLSVILLE R. R. Co.,
Pittsburgh, March 18th, 1869.

25-3-6t.

T. F. Randolph,

MANUFACTURER OF

MATHEMATICAL INSTRUMENTS,

SURVEYOR'S COMPASSES, TRANSITS, LEVELS,
DRAFTING INSTRUMENTS, &c.,

67 W. Sixth St., Cincinnati, O.

Also For Castings and Models

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WRIGHTSON & CO.,

Railroad Printers

167 Walnut Street,

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HAVING MADE RAILROAD PRINTING A

SPECIALTY,

We would respectfully call the attention of Superintendents, General Ticket and Freight Agents to the class for work we are now producing.

Bulletin Boards,

STRETCHERS,

Illuminated and Plain Show Cards

CONSECUTIVELY NUMBERED

COUPON AND LOCAL TICKETS,

Bills Lading,

Way Bills,

Blank Books,

AND ALL WORK INCIDENT TO RAILROAD OFFICES,

Got out in first-class style, and at as low rates as any establishment in the country.

SUSPENSION

COUPON TICKET CASE.

BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the long-end package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2 1/2 inches in width, and under. For Tickets over 2 1/2 inches in width.

SIZE NO. OF FORMS.	PRICES.	SIZE NO. OF FORMS.	PRICES.
*1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms: and also with working plans, if desired.

BACON & EVERINGHAM,
Milwaukee, Wis

All orders addressed to us will receive prompt attention.

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167 Walnut St., Cincinnati,

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Keep always in stock a full assortment of

BOOKS & STATIONERY AT LOWEST PRICES.

BLANK BOOKS

Of any desired pattern made to order promptly.

Particular attention paid to BLANK BOOKS and BLANK WORK for

RAILROADS, BANKERS,
MERCHANTS, INSURANCE COMPANIES,
MANUFACTURERS, EXPRESS COMPANIES,
PUBLIC OFFICES, Etc., Etc.

BINDING OF ALL KINDS NEATLY EXECUTED.

Those desiring FIRST CLASS BOOKS can have them done satisfactory at reasonable prices.

R. W. CARROLL & CO.

117 West Fourth Street, 2 doors east of Race.

WM. MERCER, R. B. MORE, GEO. STODDARD
Late Master Car Builder C.H. & D. & D. & M.

MERCER, MORE & CO.,

BUILDERS OF EVERY DESCRIPTION OF

RAILROAD CARS

Cambridge, Ind.

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KITH, Pres't, C. & I. C. Railway, Columbus, O.
M. RIDENOUR, Pres't, C. & I. J. R. R. College Cor., Ind.
J. M. LUNT, Sup't, C. & I. C. R. R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C. H. & D. R. R., Cincinnati.
J. H. WELLER, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati.
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton
C. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., Indianapolis, Ind.
Aug. 2, 1886.

THE

STEAM SYPHON PUMP

IS THE

Most Simple, Effective and Durable Device for
Raising Water by steam, yet discovered.

It is an independent LIFT AND FORCE PUMP, with-
out piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP.

WITH THE

STEAM SYPHON WATER-STATION

Locomotive can raise water, with its own steam, to fill
its tender in the same time as from an ordinary tank;
thus dispensing with tanks, pumping ma-
chinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops
Shops, Elevators, &c.,

AND BY FAR,

THE BEST BILGE PUMP.

for Steam Vessels, in use

For Circulars and other information, address,

STEAM SYPHON COMPANY,
48 Day Street,
NEW YORK.

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Oil Lands

IN

Kentucky & Tennessee,

FOR SALE BY

T. WRIGHTSON,

167 Walnut Street,

CINCINNATI

THROUGH —FROM— CINCINNATI TO NEW YORK

WITHOUT CHANGE OF
COACHES!

—VIA—

Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W.
Railway, on Saturday Morning, by the 6:00 a.m. Lightning
Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next
day, Sunday

2 Through Lightning Express Trains for New York,
Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6,15am.....	7,10pm
" Dayton.....	8,35 ".....	9,30 "
Arrive West Salem.....	1,50pm.....	4,53am
" Leavittsburg.....	4,55 ".....	7,35 "
" Meadville.....	7,35 ".....	11,10 "
" Susquehanna.....	7,48am.....	11,29pm
" Paterson.....	2,25pm.....	6,03am
" New York.....	3,15 ".....	7,00 "
" Boston.....	5,45am.....	4,45pm

Sleeping Coaches on Night Trains the entire distance
between Cincinnati and New York.

THE NIGHT EXPRESS leaves Sunday
night instead of Saturday night. All other
Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS

At Salamanca with Erie Railway.
At Mansfield with Pitts., Ft. Wayne
and Chicago Railroad.

THIS IS THE ONLY ROUTE TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely
new, of the most modern, substantial, and approved de-
scription, unequaled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all
Trains.

Ample time is allowed, at all hours,
for meals.

No effort will be spared by the Company to render a trip
over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE CHECKS,

Apply in Cincinnati at New Depot of Cincinnati, Hamilton
and Dayton Railway; or at northeast corner of Broadway
and Front streets, and at No. 80 Fourth street, nearly op-
posite Post Office. Also at any of the principal Railroad
and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. BUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1886, three Express
Trains will leave New York daily (Sundays excepted) via
Central Railway of New Jersey, and Allentown, leaving
Pier 15, foot of Liberty street, North River, at 7:00 and
9:00 a.m. and 18:00 p.m. On Sundays, one Express Train
at 8:00 p.m.

Passengers by this route save 60 to 130 miles, and Two
Hours' Time over other Lines, with but one change of
cars to Chicago or Cincinnati, and but two to St. Louis.
Passengers front the East by Sound Boats or by Rail in the
morning, will have time for Breakfast before leaving the
City. Fares always as low as by other Lines.
State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. B.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives
at Harrisburg 2 p.m., Pittsburg 12 night

9:00 a.m.—MORNING EXPRESS, for the West. This
train leaves New York Two Hours later than other Lines,
and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with
Lehigh Valley Railway to Mauch Chunk; at Reading with
Philadelphia & Reading Railway for Pottsville, arrives at
Harrisburg at 3:30 p.m. Without change of cars from
New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with
but one change to Cincinnati or Chicago, and but two to
St. Louis. This train leaves New York Two Hours later
than other Lines, and arrives at principal places West at
same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives
at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN, from the West, leaving
Pittsburg at 4:30 p.m.; passes Harrisburg at 3:00 a.m.;
Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at
7:09 a.m. Through cars from Pittsburg to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pitts-
burg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Read-
ing at 10:52 a.m.; Allentown at 12:12 p.m.; Easton at
1:10 p.m. Through cars from Pittsburg to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing
Reading at 10:40 a.m.; Allentown 12:20 p.m.; Easton
at 1:35 p.m. Through cars from Harrisburg to New York.
Arrives in New York at 5:20 p.m.

2:10 p.m.—FAST MAIL, from the West, leaving Pitts-
burg at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Read-
ing at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at
7:20 p.m. Through cars from Harrisburg to New York
Arrives in New York at 10:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive.
St. Louis & Chicago Ex.....	7.00 A. M.	9.10 A. M.
Springfield & St. Joseph Ex.....	12.00 P. M.	4.30 P. M.
St. Louis & Chicago Ex.....	4.55 P. M.	12.15 A. M.

Sleeping Cars by this train for St. Louis and Chicago.

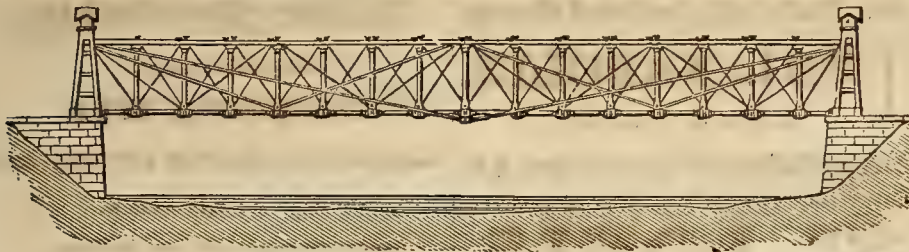
Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Ac- commodation.....	5.15 P. M.	5.05 A. M.
Harrison Accommodation.....	10.10 A. M.	2.25 P. M.

Through Tickets can be obtained at the Burnet House-
Spencer House and Gibson House offices; also at the
Depot. The Passenger Depot of the Indianapolis & Cin-
cinnati Railroad is within a few squares of all the pri-
ncipal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent

F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

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Letter Box, 1392.

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M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail and work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunities of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order, Wheels, Axles, Bowling or Low Moor Tires to fit centers without boring, Composition Castings for Bearings, every description of Copper, Sheet Iron and Boiler Work, and every article pertaining to the repair or renewal of locomotive Engines.

KNOX & SHAIN, ENGINEERING & TELEGRAPHIC

INSTRUMENT MAKERS

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21 WEST THIRD STREET, CINCINNATI.

Buy and sells Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collections

AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

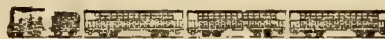
Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
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The Old And Reliable Route.



Through to Pittsburgh without Change.

THE PITTSBURGH, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads, still continues to transport produce and merchandise between Cincinnati and Pittsburgh, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

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H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent.

myll Pittsburg, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

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Productive Wells all

around them.

FOR SALE BY

T. WRIGHTSON

167 Weber Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

—IN—

Railroad, Car and Machine Shop

SUPPLIES,

—AND—

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
350 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS,

Made at his Shops in Philadelphia. Employing only the most experienced workmen and best MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.
Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

—AND—

Railroad Machine Works.

WILMINGTON, DELAWARE,
MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly. Sent for the celebrated Wheels, either single or double plate with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner, at the shortest notice, and on the most reasonable terms.

PASSENGERS

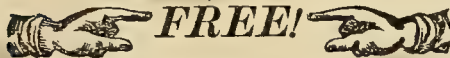
Purchasing Tickets via

Baltimore & Ohio R.R.

-TO-

BALTIMORE,**PHILADELPHIA,****NEW YORK, and****BOSTON,**

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON

Fare to Washington City same as to Baltimore.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
N. O. W. BROWN, General Passenger Agent. } Dec. '67.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Burnett House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.

Omnibuses call for passengers.

JANUARY 5th, 1868.*Ancinnati to St. Louis Without Change of Cars.***Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Even. Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave	12 20 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cincinnati,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine street, Corner Front and Broadway and at Depot, Foot Mill Street.

C. E. FOLLET Gen. Passenger Agent
J. W. CROLOGUE, General Superintendent

Best Route to St. Louis and Chicago

INDIANAPOLIS,
CINCINNATI
—AND—
LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,
CAIRO,
CHICAGO,

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha
And all Rail and River Towns and Cities in the West, North west and South-west.

5 THROUGH TRAINS DAILY,
(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express.....	7.00 am	10 50 pm
Indianapolis and Cairo Express.....	6.30 am	2 30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago.
Elegant Sleeping Cars on all night trains.
ACCOMMODATION TRAINS.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.10 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.00 pm

Through Tickets can be obtained at the Burnett House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile new to the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

MOSELEY'S WROUGHT IRON ARCH**BRIDGES,**

AND

CORRUGATED IRON ROOFS

[ARCHED AND FLAT.]



CORRUGATED SHEETS, OF ALL SIZES, CONSTANTLY ON HAND, PAINTED, AND READY FOR SHIPMENT, WITH INSTRUCTIONS FOR APPLYING THEM.

MOSELEY & CO.
Boston, Mass.

EDWIN J. KOENER,

Successor to

McDANIEL & HORNER,*Locomotive and Railroad***CAR SPRING MANUFACTURER,**

Wilmington, Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Elgin and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery

Lewistown, Mifflin Co., Penn**JOHN A. WRIGHT, Sup't.**

This Iron is all made from best Juniata cold-blast charcoal Pig Iron refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works June 1st

THE SCHENECTADY**LOCOMOTIVE WORKS,****SCHENECTADY, N. Y.,**

Continued to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING**LOCOMOTIVE ENGINES**

AND OTHER

Railroad Machinery, Tires, etc.

—AND ALSO TO—

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding their work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.

PASCAL IRON WORKS.

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1½ to 24 inches in diameter, and branches for same, &c., Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. F. M. TASKER
BY G. MORRIS.

Philadelphia, Wilmington & Baltimore**RAILROAD!****FOUR PASSENGER TRAINS DAILY**

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.
On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave at 11.00 P. M. for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD, { Editors
T. WRIGHTSON, }

CINCINNATI:
THURSDAY, MAY 6, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street.
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.
One square, single insertion..... \$ 1.00
" " " per month..... 3.00
" " " six months..... 12.00
" " " per annum..... 20.00
" " " column, single insertion..... 5.00
" " " " per month..... 10.00
" " " " six months..... 40.00
" " " " per annum..... 80.00
" " " page, single insertion..... 75.00
" " " " per month..... 25.00
" " " " six months..... 110.00
" " " " per annum..... 200.00
Cards not exceeding four lines, \$5.00 per annum.

WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

ERIE, AND ATLANTIC & GREAT WESTERN.
Morning Express leaves 6:00 A. M.; arrives in New York 3:15 P. M., next day.
Fast Express leaves 9:15 P. M.; arrives in New York 7:00 A. M. second morning.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:30 P. M.
Express Mail.....	9:45 A. M.	3:15 P. M.
Fast Line.....	4:00 P. M.	10:30 P. M.
Lightning Express.....	10:00 P. M.	6:00 P. M.

MARIETTA AND CINCINNATI.

	DEPART.	ARRIVE.
Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillsboro Accommodation.....	3:40 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:55 A. M.

CINCINNATI, HAMILTON AND DAYTON.

	DEPART.	ARRIVE.
Eastern Express (A. & G. W.).....	6:40 A. M.	5:30 P. M.
do do do.....	9:15 P. M.	4:00 A. M.
Toledo, Detroit & Canada.....	6:15 A. M.	10:25 P. M.
do do do.....	7:30 P. M.	7:25 A. M.
Lima, Ft. Wayne & Chicago.....	6:15 A. M.	10:25 P. M.
do do do.....	2:30 P. M.	6:40 P. M.
do do do.....	7:00 P. M.	7:25 A. M.
Sandusky, Cleveland & Buffalo.....	6:15 A. M.	6:40 P. M.
do do do.....	7:00 P. M.	10:00 A. M.
Connersville & Indianapolis.....	6:15 A. M.	10:25 P. M.
do do do.....	2:30 P. M.	4:15 P. M.
Connersville & Newcastle.....	6:00 P. M.	10:20 A. M.
Hamilton, Eaton & Richmond.....	6:15 A. M.	10:25 P. M.
do do do.....	5:00 P. M.	10:20 A. M.
Hamilton Accommodation.....	9:30 A. M.	8:05 A. M.
do do do.....	6:00 P. M.	6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

	DEPART.	ARRIVE.
Connersville, Rushville and Indianapolis Mail.....	6:15 A. M.	10:20 P. M.
St. Louis and Indianapolis Exp.....	2:30 P. M.	4:15 P. M.
Cambridge City and Newcastle.....	6:15 A. M.	10:00 A. M.
Cambridge City and Newcastle.....	6:00 P. M.	10:25 P. M.

CINCINNATI, SANDUSKY & CLEVELAND.

	DEPART.	ARRIVE.
Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:30 P. M.
Express Mail.....	9:45 A. M.	6:00 A. M.
New York Express.....	10:00 P. M.	5:00 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

	DEPART.	ARRIVE.
St. Louis & Cairo Express.....	6:30 A. M.	8:45 A. M.
Springfield Express.....	3:40 P. M.	3:40 P. M.
St. Louis Lightning Express.....	11:00 P. M.	1:15 A. M.
Lawrenceburg Accommodation.....	10:00 A. M.	2:30 P. M.
do do do.....	4:45 P. M.	8:00 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	3:48 P. M.

VIA WHITE-WATER VALLEY.

	DEPART.	ARRIVE.
Chicago & Cambridge City Express.....	7:00 A. M.	10:00 A. M.
Harrison Accommodation.....	6:00 P. M.	6:42 A. M.
Chicago and Cambridge City.....	6:30 P. M.	10:15 P. M.

OHIO AND MISSISSIPPI.

	DEPART.	ARRIVE.
For St. Louis, Cairo.....	7:00 A. M.	6:00 A. M.
Evansville and Louisville.....	5:10 P. M.	9:00 P. M.
do do do.....	10:15 P. M.	11:15 P. M.
Only Sunday trains are 5:10 P. M., leaving, and 6, A. M. arriving.		

KENTUCKY CENTRAL.

	DEPART.	ARRIVE.
Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

The Great Southern Road

AND ITS ROUTE.

Those, who like ourselves, have felt a deep and tireless interest in the possible future of a GREAT SOUTHERN ROAD—for the benefit of, and created by the imperious need of Cincinnati, rejoice greatly that *one step*, and a great one, has been taken towards that object. The "Ferguson Bill," (as it is called,) has been passed by the Legislature of Ohio, and is supposed by the highest legal talent to be entirely Constitutional. This act gives power to the City of Cincinnati to borrow ten millions of dollars, and make the road. The Constitution forbids cities to hold stock in a railroad and to aid Railroad Companies. But in this case, the city will make the road, and it is believed, there is inherent power in the city to do this. The steps to be taken, as we read the law, are: 1. To fix the *termini* of the road, one of which must be Cincinnati; 2. To have a vote of the people, authorizing the construction of the road; 3. The appointment, by the Superior Court of five Trustees, who are to have charge of the funds and the work; 4. The actual construction of the road.

In our opinion, each of these steps should be taken as *speedily as possible*. For in spite of anything, there will be great delays in completing the work. Some discussion must be had on the route, and three weeks' notice of a vote must be given. It will be six weeks before the full authority of the city will be given. After that several weeks must elapse in surveying the route, which ought to be done in the most careful manner; and then the funds must be raised, probably in Europe. Thus, much time will be consumed. Besides all this, the public mind is now ready for action; and Byron says, there is a tide which taken at the flood leads on to fortune; but, if not taken at the flood may lead to a very different place. In every aspect of the case, we had best *urge the matter on*.

The first step taken is to select the *termini*. Cincinnati is one. The selection of the other is in fact, *the selection of the whole route*, and on this we shall make a few remarks. What is the *object* of the Southern Road? It is not to make a South-western road, nor a South-eastern road. The former we have by the direct road to Louisville, connecting with Nashville and Memphis; the latter we shall have by the Chesapeake and Ohio Road, now making. The *object* in view, therefore, is not to attain what we can attain by other roads; but, it is to make a *direct SOUTHERN TRUNK LINE*, which will give us not only the trade of East Tennessee, but of North and South Carolina, and Georgia; and with the exception of the western portion of Georgia, we can have *the whole trade of that region with the West*. Now, where should this Trunk Line

go to secure this great prize? That is the great question; and it seems to us not very difficult to settle; and let us examine it step by step:

1. When the Southern Road was first planned in 1834, and was proceeded with in the following two years, till the great convention of 1836, it was intended to go to Knoxville, thus to be connected with the main line in South Carolina, to go through the Rabun Gap in Georgia, the route now called the "Blue Ridge Railroad" route, and which South Carolina is now engaged upon with great earnestness. Knoxville was then the only *objective point* with Cincinnati. Now, let us examine where the Blue Ridge Railroad will go? The Blue Ridge goes to the north-west corner of South Carolina, and there enters the north east corner of Georgia (Rabun county), and then passes the Rabun Gap into the Valley of the Little Tennessee, towards Kingston, about 40 miles below Knoxville. Now, let us mark this point. But, in the meantime observe, that if the Trunk Line Road were to strike, say Kingston, on some point making a connection with the Blue Ridge Road, that would be a direct line to the South, and would strike two great seaports, Charleston and Savannah; for, let it be remembered, that Savannah is making what is called the Savannah Valley Route, which goes up on the East side of the Savannah River, till it joins the Blue Ridge Railroad in the extreme north-eastern corner of South Carolina. Thus, a main trunk line, which would strike the Blue Ridge Road near Kingston, would secure a direct Southern road to *both* Charleston and Savannah. We should kill two birds with one stone, which is certainly desirable.

2. Now, let us look at the system of North Carolina roads. North Carolina has been many years building up a system of railroads, whose western central point is Ashville. Thence, the plan has been for more than thirty years to go down the Valley of the French Broad to Knoxville, and that would be easily done. Knoxville is forty miles above Kingston. An interval then of only forty miles from the junction of the Blue Ridge Road, its main trunk would have a connection with the whole system of North Carolina Roads; and that system spreads out through the whole of North Carolina, and reaches Wilmington at one point, Fayetteville at another, and Beaufort at another. In fine, a railroad from Cincinnati to Knoxville, would reach the whole sea coast from Norfolk to Charleston. In our opinion this will be the most important connection made by the whole Southern Road, and therefore ought not to be endangered by carrying the point of junction too far West.

3. We must now turn to the Alabama connection. From Selma almost north, a railroad is made 130 miles, whose northern point will ultimately be Chat-

tanooga. This road would connect Chattanooga, and also Knoxville, with the whole of Alabama. Hence it is urged, that the main trunk line should be made to Chattanooga. But it will be seen by consulting the map, that this will be fully 50 miles farther than there is any need whatever of doing; and that will cost at least *a million and a half of dollars*; a thing that should not be thought of, when it is wholly unnecessary; for, observe, that *there is a good railroad from Chattanooga to Knoxville*; touching all the points to which the main trunk can be carried. Hence, it is unnecessary and impolitic to carry the road farther South, or West, than a point at which direct communication can be made with the Blue Ridge Railroad. After a review of the whole ground with the map, before us, we conclude that, the original plan of a DIRECT TRUNK LINE to Knoxville, or at farthest west, to near Kingston, connecting with the Blue Ridge Railroad, is the true and best plan for Cincinnati. The real object is to make a direct Southern Trunk Line, which should connect at the most central point with the North Carolina system of railroads, with the Blue Ridge Road of South Carolina; with the Savannah Valley Railroad now making; and with the Selma, and Mobile Road. All this can be done by a trunk line carried either to Knoxville, or to some point within 40 miles of it. To do this will require,—1. The purchase of the Kentucky Central, and—2. The making of 160 miles of new road, at a cost of \$40,000 per mile—\$6,400,000. The total amount of money required will be nearly, if not quite the \$10,000,000, which the law authorizes the city to raise. The work can be done, and every mile of it finished within two years. Suppose it done, what will it do? In our opinion, the benefit to Cincinnati is almost incalculable. It gives her the trade of an immense country, in which she can have no rival, so far as the exchange is for Western products. Now, that whole trade nearly, goes to other cities, at double the distance. By this trade, Western products will be laid down in the Southern Atlantic, much cheaper than can be now. So we say,—HURRAH! FOR THE SOUTHERN RAILROAD! Urge it on! Make it quick, and wait not for another generation to do what is inevitable.

BLUE RIDGE RAILROAD—In another place we give the proceedings of a meeting of parties interested in the Blue Ridge Railroad. The completion of this project is of great importance to Cincinnati, especially in connection with the road contemplated by the passage of the Ferguson Bill. By private letters from J. W. HARRISON, Esq, President of the Blue Ridge Railroad, we learn that the officers of the road, together with Gov. Scott, of South Carolina, and other eminent citizens of that State, will visit our city, and endeavor to interest our citizens in their enterprise.

The Ferguson Railroad Act.

The following is the full text of the Ferguson Railroad Bill, as it passed both houses of the General Assembly:

"An Act Relating to Cities of the First Class, Having a Population Exceeding 150,000 Inhabitants.

"Section 1. Be it enacted by the General Assembly of the State of Ohio, that whenever, in any city of the first class, having a population exceeding 150,000 inhabitants, the City Council thereof shall, by a resolution passed by a majority of the members elected thereto, declare it to be essential to the interests of such city that a line of railroad, to be named in said resolution, should be provided between termini designated therein, one of which shall be such city, it shall be lawful for a board of trustees, appointed as therein provided, and they are hereby authorized, to borrow, as a fund for that purpose, not to exceed the sum of ten millions of dollars, and to issue bonds therefor, in the name of said city under the corporate seal thereof, bearing interest at a rate not to exceed seven and three-tenths per centum per annum, payable at such times and places, and in such sums, as shall be deemed best by said board. Said bonds shall be signed by the President of said board, and attested by the City Auditor, who shall keep a register of the same, and shall be secured by a mortgage on the line of railroad and its net income, and by the pledge of the faith of the city, and a tax, which it shall be the duty of the Council thereof annually to levy sufficient with said net income to pay the interest, and provide a sinking fund for the final redemption of said bonds: Provided that no money shall be borrowed, or bonds issued, until after the question of providing the line of railway specified in the resolution shall be submitted to a vote of the qualified electors of said city at a specified election to be ordered by the City Council thereof, of which not less than twenty days' notice shall be given in the daily papers of the city; and further provided that a majority of said electors voting at said election shall decide in favor of said line of railway. The returns of said election shall be made to the City clerk, and be by him laid before the City Council, who shall declare the result by a resolution. The bonds issued under the authority of this section shall not be sold or disposed of for less than their par value.

Sec. 2. If a majority of the votes cast at said election shall be in favor of providing the line of railway as specified in the first section, it shall be the duty of the Solicitor forthwith to file a petition in the Superior Court of said city, or, if there be no Superior Court, then in the Court of Common Pleas of the county in which said city is situated, praying that the Judges thereof will appoint five trustees to be called the Trustees of ————Railway. The blank to be filled with the name given to the railway in the resolution. And it shall be the duty of said Judges to make the appointment and to enter the same on the minutes of the Court. They shall enter into bond to the city in such sum as the Court may direct, with one or more sufficient sureties to be appointed by the Court, conditioned for the faithful discharge of their duties. The bond so taken shall be deposited with the Treasurer of the corporation for safe keeping.

"Sec. 3. The said trustees and their successors shall be the trustees of the said fund,

and shall have the control and disbursement of the same. They shall expend said fund in procuring the right to construct and in constructing a single or double-track railway with all the usual appendages, including a line of telegraph, between the termini specified in the said resolution; and for the purpose aforesaid shall have power and capacity to make contracts, appoint employees and pay officers and agents, and to acquire, hold and possess all the necessary real and personal property and franchises, either in this or in any other State, into which said line of railway may extend. They shall also have power to receive donations of land, money, bonds and other personal property, and to dispose of the same in aid of said fund.

"Sec. 4. The said trustees shall form a board and shall choose one of their number President, who shall also be the acting trustee, with such power as the board may by resolution, from time to time, confer upon him. A majority of said trustees shall constitute a quorum, and shall hold regular meetings for the transaction of business at their office in the city under whose action they are appointed, but they may adjourn from time to time to meet at any time and place they may think proper. They shall keep a record of their proceedings, and they shall cause to be kept a full and accurate account of their receipts and disbursements, and make a report of the same to the City Auditor annually, and whenever requested by the City Council. No money shall be drawn from said fund but upon the order of said board, except their own compensation, which shall be paid out of the same upon the allowance of the Court appointing them, and shall be proportioned according to their respective service.

"Sec. 5. Said trustees shall have power to take such security from any officer, agent or contractor chosen, appointed or employed by them, as they shall deem advisable. They shall not become surety for any such officer, agent or contractor, or be interested directly or indirectly in any contract concerning said railway. They shall be responsible only for their own acts.

"Sec. 6. Whenever the Solicitor of any city, under whose action a board of trustees has been appointed as herein provided, shall have reason to believe that any one of said trustees has failed in the faithful performance of his trust, it shall be his duty to apply to the Court that appointed said trustee, by petition, praying that such trustee be removed and another appointed in his place; and when a vacancy shall occur in said board from any other cause, it shall be filled in like manner. If the said City Solicitor shall fail to make application in either of the foregoing cases after the request of any holder of the bonds issued by said trustees, or by a tax-payer of the corporation, such bondholder or tax-payer may file a petition in his own name, on behalf of the holders of such bonds, for like relief, in any court having jurisdiction, and if the court hearing the action shall adjudge in favor of the plaintiff, he shall be allowed, as part of his costs, a reasonable compensation to his attorney.

"Sec. 7. Whenever, in the construction of a line of railway as herein provided, it shall be necessary to appropriate land for the foundation of the abutments or piers of any bridge across any stream within or bordering upon this State, or for any other purpose, or to appropriate any rights or franchises, proceedings shall be commenced and conducted in accordance with the act entitled 'an act to provide for compensation to the owners of private property appropriated to the use

of corporations,' passed April 3, 1852, and the acts supplementary thereto, except that the oath and verdict of the jury and the judgment of the court shall be so varied as to suit the case.

"Sec. 8. Whenever there shall be between the termini designated in any resolution passed under this act a railroad already partially constructed, or rights of way acquired therefor, which can be adopted as part of the line provided for in said resolution, the trustees of said line may purchase the said railroad and rights of way, and pay for the same out of the trust fund.

"Sec. 9. The said trustees shall have power, as fast as portions of the line for which they are trustees are completed, to rent or lease the right to use and operate such portions upon such terms as they may deem best, but such rights shall cease and determine on the final completion of the whole line, when the right to use and operate the same shall be leased by them to such person or company as will conform to the terms and conditions which shall be fixed and provided by the Council of the city by which the line of railroad is owned.

"Sec. 10. The City Council of any city, passing a resolution as provided in the first section, may appropriate and pay to the said trustees, out of the general fund of said city, such sum as may be necessary for defraying the expenses of the election, and said sum shall be repaid out of said trust fund when raised."

"Sec. 11. This act shall take effect on its passage."

Cincinnati Southern Railroad.

Thanks for the Ferguson Bill.

Discussion as to Termini.

Board of Trade Meeting Last Night.

[From the Cincinnati Commercial, May 1.]

Despite the inclemency of the weather last night the Board of Trade Hall, in Pike's Building, was crowded by prominent business men of the city, in pursuance of a call for a meeting to hear the report of the Committee on Southern Railroad, and for consultation on matters pertaining to the enterprise.

The meeting was called to order by Miles Greenwood, who stated that Mr. A. T. Goshorn would report from the Committee to Columbus.

Mr. Goshorn made a verbal report, not having had time to write one. He stated that three weeks since the Board of Trade thought it necessary to press the passage of the bill, and called a meeting of the railroad men and lawyers, who requested the Council to appoint a committee of three to urge the passage of a law. The committee appointed agreed upon the Ferguson Bill as the only one that would be likely to pass. On Thursday last twenty of the committee went up to Columbus. The members of the Chamber of Commerce Committee were unable to go up. Those who went up were representative business men and professional men. They did not keep a grocery, but presented the claim in a business-like way. Judge Carter, of Defiance, and Mr. Brooks, of Columbiana County, alone opposed the bill in the Senate. Carter's speech was made in such a way as to

help the bill, in fact. The bill having passed in the Senate was readily put through in the House. Mr. Goshorn now read the law as amended, which gives power to a Board of Trustees to borrow \$10,000,000, and issue the bonds of the city therefor, at 7 3-10 per cent. per annum, and secured by mortgage on said line of road, provided that the question shall first receive a majority of the electors of the city, at an election of which twenty day's notice shall be given. The Trustees appointed by the Courts shall have all power in disbursing funds and building the road, either double or single track with necessary telegraph lines.

Mr. Goshorn stated that the committee had no particular line in view as yet. The point to which the road may be built will have to be fixed by a resolution of the City Council, and it remained for the citizens to discuss the subject fully and let the Council know their views. The Committee of Council will present their report at the meeting on Friday night next.

Mr. Greenwood suggested the propriety of the meeting appointing a committee to suggest to Council a point to which to build. It might be necessary to wait until December next to secure a charter from the Kentucky Legislature; but in the meantime all that can be done in the selection of a route ought to be done as speedily as possible.

Mr. Goshorn mentioned that it was not necessary, according to the law, to immediately name the route, only the termini proposed.

Mr. Kinsey presented the following:

"Resolved, That the Committee on Southern Railroad be instructed to prepare a resolution, to be presented to the City Council, declaring a Southern Railroad essential to the interests of Cincinnati."

Mr. Bonte presented the following as a substitute for the above:

"Resolved, That in the opinion of this Board of Trade, Cincinnati and Chattanooga be recommended to the Council of this city as the termini of the proposed Southern Railroad, and that the name suggested for the road to be known as the Cincinnati Southern Railroad."

Mr. Lewis Worthington did not deem it advisable to name the termini. There ought first to be a report on all the surveys made, which are in the hands of a gentleman at Lexington, Mr. Gunn, who has the original surveys made by General Burnside. Mr. Gunn had gone over most of the surveys carefully. He did not think that any opinion as to the termini or route ought to be made thus early in the matter.

Mr. McNeal thought that it would be very premature to as yet name the Southern terminus. It was not merely a matter of the cost of the road, but of expediency, as to Chattanooga, Knoxville, Nashville or McMinnville for a Southern terminus where other roads may meet it.

Mr. R. M. Bishop was of the same opinion. It was important to Cincinnati to go to the right place; and while we might agree as to Chattanooga, it would be very premature to say so as yet. It was a subject worthy of very grave consideration.

Mr. Kinsey claimed that he had offered his resolution in this same spirit. The Board of Trade and the Chamber of Commerce ought first to consider this subject. The first step to be taken was for Council to declare the route, and after that the termini could be named.

Mr. Goshorn corrected Mr. Kinsey in this, Council had to name the termini in its first resolution.

Mr. A. E. Chamberlain thought that if this was the case Council ought not to touch the matter hastily. There were many propositions that would be made as soon as it became generally known that Cincinnati was taking this step of improvement. Any hasty legislation would cut off such propositions.

Mr. Wrightson spoke in favor of Chattanooga, which would be only 1,101 miles distant from New York, if the proposed gap were to be made, and 360 from Cincinnati, instead of 480, as by Louisville. This gave as straight a line as could be made, and the most direct way to reach the cotton of the South. This would be in harmony with the pet scheme of South Carolina, the Governor of which, and the President of the road in which three millions had already been expended, would soon be here. Nashville would take care of herself, as she had already announced a meeting having been held at Lebanon, Kentucky. Under the law, Cincinnati had to go the whole hog or none and build the grand North and South Trunk line. Let her do that, and other interests will meet her on both sides. Already there is a scheme to extend this road, so as to make a bee-line of the Grand Trunk road from the straits of Mackinaw to Pensacola.

R. M. Bishop was in favor also of holding off as to the termini. By so doing, pledges of valuable lands might be secured.

Mr. Bonte wanted to know to whom the promises would be made.

Mr. Bishop—To the trustees.

Mr. Bonte—That's it. The trustees can't be appointed until the termini is named.

Mr. Goshorn did not think the Council would act hastily in this great project—any more so than the Board of Trade, Chamber of Commerce, or any other body. Council's idea was a Grand Trunk line, but the city could not enter into any partnership arrangement, and it would be necessary to act with caution. Council would seek for all the information attainable. The matter was of such great magnitude that hasty action would not do.

Mr. Bonte here asked leave to withdraw his first resolution, and to present the following:

"Resolved, That a committee of three be appointed by this Board of Trade, to act in connection with similar committees to be appointed by the City Council and Chamber of Commerce, to take into consideration the resolution providing for a Cincinnati Southern Railway, and fixing the termini of the same, and report to this body at the earliest possible time."

Mr. McNeal spoke to the point of business sought by Cincinnati. It was his view that this road should be so constructed as to command the trade of the South-west, and not to seek that of the South-east. To secure the business of the eastern roads Cincinnati must command the South-western trade, and not seek a seaboard connection.

Mr. Josiah Kirby thought the object of the meeting was to return thanks to the General Assembly for the passage of this bill. This discussion seemed all out of order. This question of termini was forced upon all of these meetings, and it ought not to be. There was plenty of time in the future for the question of termini to be discussed and settled. He wanted the discussion to end, and the legitimate object of the meeting to take its place.

Mr. Bonte's resolution, as a substitute for that of Mr. Kinsey and his first, was now adopted without opposition.

Mr. Bonte here presented a paper intended

for adoption as an expression of thanks to the General Assembly, for its prompt action in passing the Ferguson Bill, and proposing to treat the members to the hospitalities of the city, including a grand banquet.

Mr. John D. Caldwell moved as a substitute, that the thanks of the Board of Trade be returned to the Legislature for its act in passing the bill, which he thought would cover the ground as well as extra verbiage.

Mr. Greenwood wanted to know where the money was to come from with which to pay for a banquet. It would cost at least \$5,000, which could not be obtained.

Mr. Gosborn agreed with Mr. Caldwell. It was well to return thanks; but the Legislature had done nothing more than its duty. The business men who went there to urge the passage of the bill, were received as business men representing great interests, and not as lobbyists, and for that the members were thankful.

Mr. Caldwell here presented his substitute, in the following words:

"Resolved, As the unanimous expression of the Cincinnati Board of Trade, that the General Assembly of the State of Ohio are entitled to the thanks of the whole people for their courteous reception of the committees of the Board of Trade and the Chamber of Commerce, and their prompt action in adopting the Southern Railroad Bill."

Adopted.

Thanks were also returned to the officers of the Little Miami Railroad for courtesies extended in the cause.

Mr. Greenwood named R. M. Bishop, Lewis Worthington and A. E. Chamberlain as the committee on the subject of termini, suggested in Mr. Bonte's resolution. Adjourned.

The Beginning of the Pacific Trade, and what may be expected.

The other day a salute of cannon was fired at Chicago, on the arrival of an invoice of tea, overland by the Pacific Railroad. Well may they fire cannon, for this is the beginning of a Pacific trade, whose amount we can scarcely conjecture; but which, by the necessity of things, will be very great. In the first place let us look at the immense populations which are over the Pacific, and have heretofore traded with Europe and America by the long voyage round Cape Horn, or by India and Egypt. Disregarding the whole of India, we find in China, Japan, and the islands of the Pacific, something like five hundred millions of people, or nearly half the human race. These people are not savages, but in a large sense civilized people, who import and export wares, merchandise, and products of all descriptions. Till within twenty or thirty years, they have been shut up and almost excluded from all commerce with the world. Now they are open to commerce, and the commerce of those countries is increasing with great rapidity. The trade in tea, silks, nankeens etc., is immense, and as the commercial intercourse increases, it is very evident, that a greater variety of products will be introduced. Indeed, it is not impossible that

we may send cured meats for those countries, simply because we have almost unlimited amounts, and they have very little. However, that may be, our exports will be considerable, while our imports must be great.

Next, let us look at the effects of this new channel of commerce on the Central West. It must be very great. Heretofore all the commerce the Central West has had with China has been by the Atlantic ports, with which the commerce with Asia has been carried on in the most round-about way. Now, the West will trade with China directly. This cargo of tea arriving at Chicago shows conclusively that this direct trade will begin immediately. In three months or less, the Pacific Road will be entirely finished, and in operation. The leading merchants of the Western States will then begin importing directly from China and Japan. There can be no competition in the Atlantic States with them; for to bring teas, silks, and other Asiatic goods from New York to Western States would then require,—1st, much greater time; 2nd, much greater carriage, and 3rd, an expensive re-shipment at New York, to be carried a part of the same distance back. It is therefore palpable, that the trade of China and Japan with the Central West must be carried on directly by Western merchants, and it will be a very short time before there will be a real and permanent revolution in the mode and extent of Asiatic trade with America. How far European trade may be affected is not yet obvious. But, it is certainly probable, that much of the trade of England and France with China and Japan will be carried over and through the United States. Let us now look a little at what that trade is. In the "Public Document" called "Commercial Relations" for 1867, there is a statement made of the trade of the different parts of the world, by our Consuls in foreign countries. This gives a sort of inner view of what has been, but a very slight idea, we think, of what is to be. To

begin with Japan, we present the following statement of our Consul at Kanagawa, who is anxious to show what sort of things we take of that country:

KANAGAWA—JULIUS STAHEL, Consul.

DECEMBER 31, 1866.

Statement showing the description, quantity, and value of exports from this port to the United States for the several quarters of the year ended September 30, 1867, (compiled from consular returns.)

6,000 bamboos	\$420 00
2,390,184 pounds tea	868,249 20
175,190 pounds tea	81,285 80
345 cards silkworm eggs.....	76,831 08
18 bales raw silk.....	11,034 45
23 bales washed silk	8,252 69
10 bales floss silk.....	3,529 00
2 cases Japan curiosities.....	12,396 00
4 cases Japan curiosities	378 83
113 bales cotton.....	595,083 29
130 bales rags.....	886 52
16 bales paper.....	288 59
39 casks sundries.....	2,679 23
5 cases merchandise.....	512 76

Total for quarter ended December 31, 1866..... 1,661,827 44

Total for quarter ended March 31, 1867..... 550,844 76

Total for quarter ended June 30, 1867..... 437,162 03

Total for quarter ended September 30, 1867..... 506,201 78

Grand total..... 3,156,036 01

This shows that we took three millions of dollars at that port, where we took nothing a little while ago. The most valuable articles were tea and cotton, though the last we don't understand. The various forms of silk amount to \$100,000.

A complete view of our China commerce is given by MR. MANGUM, our Consul General.

The following table gives a view of the aggregate commerce of China with foreign countries. The *tael* appears to be worth about \$1.60 American currency, that is about one-third a British pound:

The preceding table of imports and exports, from and to the different countries with which China carries on trade give the following proportions of estimated value of trade to each of them:

Comparative Table of the trade of China with foreign countries and coastwise during the years 1865 and 1866.

With—	Imports.		Exports.		Total.	
1865.	Taels.	£.	Taels.	£.	Taels.	£.
Great Britain, British possessions and colonies	57,735,771	18,292,994	50,161,697	15,884,537	107,897,468	34,167,531
Japan	2,454,109	777,134	2,074,743	657,735	4,528,852	1,434,869
United States of America.....	482,593	152,292	5,664,823	1,877,193	6,147,416	2,010,015
Sundry countries.....	2,620,987	839,979	3,754,734	1,189,980	6,375,721	2,019,959
Chinese open ports or coast trade...	79,869,253	25,272,930	44,110,354	13,968,278	123,979,607	39,241,208
Total.....	143,102,713	45,315,859	104,165,451	32,985,723	247,268,164	78,301,582
1866.	Taels.	£.	Taels.	£.	Taels.	£.
Great Britain, British possessions and colonies	71,757,249	22,793,128	46,739,881	14,769,295	118,497,130	37,562,423
Japan	2,932,588	926,646	742,235	235,441	3,674,823	1,162,087
United States of America.....	829,832	271,770	6,316,130	2,000,111	7,145,962	2,321,881
Sundry countries.....	1,951,132	617,858	2,461,561	780,127	4,412,693	1,397,985
Chinese open ports or coastwise....	95,531,355	30,251,596	46,761,927	14,807,721	142,293,282	45,057,377
Total.....	174,462,136	54,613,008	103,923,034	32,592,295	278,385,170	87,210,383

The entire estimated commerce of China, including the coastwise trade, appears to amount to five hundred millions of dollars; of which \$180,000,000 is with Great Britain and her colonies (of which we presume a large part is with India), and only \$10,000,000 with the United States, \$8,000,000 with Japan, and most of the residue coastwise.

The total value of the whole foreign trade of China, as divided between the different flags is as follows:—

Flag.	Total value.
	<i>Taels.</i>
British.....	225,848,600
American.....	53,099,900
North German.....	24,722,950
French.....	4,181,500
Siamese.....	2,572,150
Danish.....	1,994,000
Dutch.....	1,972,200
Sundry.....	890,300
Spanish.....	778,800
Sweden & Norway.....	783,300
Chinese.....	455,500
Hawaiian.....	295,100
Portuguese.....	219,400
Russian.....	163,100
Austrian.....	67,200
Belgian.....	36,900
Japanese.....	1,800

Grand total.....318,082,700

Supposing the *tael* to be worth about \$1.60, then the trade carried on with the American flag is, (53,099,900 taels) worth \$85,000,000, which is a very different showing from that of the exports. We suppose the coastwise trade is wholly carried on by British and American shipping. We close these extracts with the following remarks of the Consul General on the silk:

It is not improbable that the wild raw silk of the province, on which very interesting details have been written, may yet, to a small extent, rank amongst the exports of this market. The producing districts are separated from this port by but a few miles, and extend about half the length of the province in a northeast and southwest direction.

The northern silk worm, though not longer, is much thicker than the ordinary insect, and thrives only on the leaves of a shrub oak.

For all practical purposes of trade, however, I am able to state that none has ever, to my knowledge, been offered for sale at a price within thirty per cent., that would admit of its being shipped as a speculation, either to Europe or America.

For the present, it would appear that this silk can only be used in this country, where, without the additional expenses of purchase and shipment, but with cheap labor, it is woven by the natives of Shantung, principally, into the China pongees.

Specimens of cocoons and eggs, however, have been sent to France with the hopes of supplying the deficiencies of some of her silk producing departments, and, in some instances, with most gratifying success.

It is my opinion that this worm would do well in some portions of California, where a shrub oak similar to the China tree is quite abundant, and the climate not unlike this.

I do not think it necessary at the moment to add anything further in the interest of shipping, excepting to reassure those con-

cerned in the coast trade of China, that this port, as previously intimated, offers the best freight ruling, and that the necessity for increased tonnage will extend yearly, as the carrying business is wrested from the native junks.

In the above extracts we have shown that a commerce, which a few years ago was small, is rapidly extending; that the coastwise trade of China is in the hands of British and Americans, and from true facts, it is quite evident, the Pacific trade must increase to a very great extent. This fact, taken in connection with our own population increasing on the shores of the Pacific, seems conclusive to our minds, that we ought to provide for two other lines of Pacific road. We come back then to the same idea we have so often and so long sustained in these columns, that there ought to be THREE great Pacific roads, and these must be, the Northern, Union and Southern. Delay it as we may, this is what we must come to. It may be delayed, but the sooner Congress takes up this matter the better.

The Blue Ridge Railroad Company.

[From the Charleston Courier.]

CHARLESTON, April 9, 1869.

According to adjournment, the Stockholders of the Blue Ridge Railroad Company met in the Mayor's office at 1 o'clock P. M., and a majority of the stock being represented, the meeting was called to order, the Mayor in the chair.

Mr. TRENHOLM, chairman of the committee appointed to take into consideration the reports of the President and Directors, Chief Engineer and Superintendent, made the following Report and Resolutions, which were unanimously adopted:

The Committee to whom were referred the three several reports made to the stockholders by the President, the Chief Engineer, and the Superintendent, ask leave to submit the following.

REPORT.

They have given these important documents the most attentive and earnest consideration, and they cordially recommend the acceptance and approval of them by the stockholders; and also the immediate publication thereof as the best means of drawing public attention, throughout the United States, to this important enterprise. It will be seen by these reports that the unfinished work hitherto done upon the line of road is in an excellent state of preservation, having been originally most faithfully done, and having suffered but little injury from the lapse of time. They will, consequently, make it plain that the work already done, having cost three millions and a half dollars in coin, and being now in a good state of preservation, constitutes, when united to the cost of completion, an undoubted security under the mortgage, for the bonds to be now issued, limited in amount as they will be to the sum necessary to complete the work. And this independently of the State guarantee. In these circumstances, and the bonds having in addition the endorsement and guarantee of the State, your Committee are of opinion that no further time should be lost, and that bids should at

once be invited by public advertisement for the construction and completion of the entire line of road from Walhalla to Knoxville, so as to bring every part of this State into early and direct communication by railroad with all the great cities of the Western Valley.

The Committee deem it their duty to point out to the Stockholders the energy and zeal displayed by President Harrison and Chief Engineer Low, in the service of the Company, and the very clear and satisfactory character of the reports submitted by them; and to express to those officers, on behalf of the Stockholders, the sense that is entertained of their services.

In relation to those matters upon which the stockholders are expected to instruct these officers and the Board of Directors, the Committee have, for brevity, embraced their views in the form of resolutions, as hereto appended, and which they respectfully submit as part of their report, and recommend to the adoption of the meeting. Matters of minor consideration, such as the roofing of the bridges with metal, they propose to leave to the care of the President and Board of Directors. All of which is respectfully submitted as the report of this Committee.

G. A. TRENHOLM, Chairman.

City Hall, Charleston, April 9, 1869.

Resolved, That the President and Directors be and they are hereby authorized and directed to take the necessary measures to prepare and execute the bonds, securing the same by a first and only mortgage upon the property and franchises of the road, in the several States of South Carolina, Georgia, North Carolina and Tennessee; but excepting from the operation thereof the lien of the State of Tennessee, on the property in that State, to secure the advances to be made by the said State, as provided by law.

Adopted.

Resolved, That the President and Directors be and they are hereby authorized and required to advertise for bids to build the entire road, from Walhalla to Knoxville, payment to be made in first mortgage bonds, endorsed by the State of South Carolina, and to enter into contracts for the accomplishment of the work.

Adopted.

Resolved, That it be left to the discretion of the Board when to terminate the lease of the Greenville Railroad Company, but that they be and are hereby instructed to require of said Company that they commence at once and complete as speedily as possible the necessary repairs to the road.

Adopted.

Resolved, That a Committee of three Stockholders be appointed to prepare and report at the next general meeting of Stockholders a body of by-laws for the government of the corporation, and that they consider and report upon the expediency of giving the holders of mortgage bonds of the company a representation in the Board of Directors.

Adopted.

Resolved, That the President and Board of Directors be and they are hereby empowered, at their discretion, to appoint an Executive Committee, consisting of not fewer than three members of the Board, and to delegate to them the power to carry into effect so much of the foregoing resolutions as they may deem proper, subject always to the ratification of the Board.

Adopted.

Resolved, That the Board of Directors be and they are hereby authorized to fix the com-

pensation of the President and Superintendent of the Company, and to make the necessary arrangements to pay the arrears of the same for the last two years.

Adopted.

PRESIDENT'S REPORT.

To the Stockholders of the Blue Ridge Railroad Company:

The Board of Directors have thought it advisable to assemble you at this time, to obtain your judgment and direction as to certain preliminary matters of interest to the Company, looking to an early resumption of work upon the line of the road.

But few persons, except those immediately interested, or actually employed in the management of this Company, can justly appreciate the unexpected delays and difficulties of the past two years. At our meeting in November last, it was anticipated, with some degree of confidence, that material progress would have been exhibited before this time. An able delegation from this city, accompanied the President and Governor Scott to the city of New York, to represent the great importance of this enterprise to the South and West, and to enlist the moneyed interest of that city in its behalf. But owing to the feverish state of public opinion in reference to all matters connected with the South, and the unparalleled stringency in the money market, nothing was accomplished beyond bringing the condition and prospects of the Company prominently and favorably to the attention of capitalists and contractors.

The necessity for a remeasurement of the work already done upon the line of the road, the loss and damage incident from abandonment for years, and a new estimate to suit the changed condition in the prices of labor materials, induced the Board in January last to organize a small corps of engineers and put them on the work, so as to have such estimates in readiness to meet any bids or contracts which may be offered. The Board was fortunate enough to secure the services of Colonel James P. Low, as Chief Engineer, whose reputation for skill and ability in his profession is ample guarantee that the Company will not be disappointed or dissatisfied.

Colonel Low immediately organized a corps sufficient for the purpose, an outfit for the field was procured, and the party was soon engaged in the work. His able report herewith submitted, will inform you of the progress and results of the survey, and contains many interesting facts and suggestions in regard to the condition of the work and the great importance and encouraging prospects of our enterprise.

The results of his observation is another evidence, not only of his great forecast and wisdom evinced by those who inaugurated this project, but of the ability and honesty with which the work along the line has been performed. This solid masonry, these lofty piers and granite arched tunnels will long remain as monuments of their energy and enterprise.

The Board of Directors believe that the time has now arrived when additional progress may safely and prudently be made in the way of preparation for active work.

Although our State securities have not advanced in price as rapidly as we may have justly hoped, and are still far below their value; although the money market in our great cities is still unsettled and stringent, and capital still timid and tardy in its approach Southward, yet the Board are sanguine in their hopes that the bonds of this Company

authorized to be issued, resting on a basis of so large an amount already well expended in construction and endorsed by the State, will command, in a short time, such rates as will justify the company in progressing with the work. The Board would recommend that immediate steps be taken for the proper preparation, engraving and execution of all or a portion of these bonds, according to the terms of the Act of September last, and that a mortgage of the property of the company be also prepared and executed, extended so as to include and secure the entire issue of \$1,000,000. It is a question of some moment, to be determined by the Stockholders, whether the bonds should bear interest in coin or currency. Many capitalists having advanced the opinion, that if the interest on these bonds was payable in coin, their market value would be largely enhanced.

The Board would also remind the Stockholders that at the last meeting, it was considered inexpedient to organize the Board according to the power conferred by the Act of September last, and the Board and officers heretofore elected have continued to perform the duties devolved upon them. It is, perhaps, time that some action should be taken in reference to this matter, and for the present a simple, economical and effective organization made. The salaries of officers should be fixed, and some early arrangement made for payment of arrears due former employees of the Company.

In connection with this, the Board would recommend the appointment or election of two Directors, who, with the President, should constitute an executive committee, which committee should be charged with the proper preparation and engraving of the bonds of the Company, mortgage, &c., to advertise for or receive bids of proposals for work, and report thereon when necessary, with such other matters usually committed to such committees.

It will be seen from the Chief Engineer's report, that the most advantageous sale or use of the present resources of the company will not furnish the means to construct the entire line of our road, and hence the importance and necessity for increasing our capital, so as to ensure the early completion of the work. Vigorous measures should be adopted now, to obtain the long and justly expected aid from the great cities of the West. At no previous time has the public mind of these cities, especially Cincinnati and Louisville, been so thoroughly aroused and excited on this subject. Even now, the Board of Trade of the former city is engaged in special meetings, in considering the ways and means to secure promptly and surely this Southern connection by rail. We should not lose this propitious opportunity to urge upon them the great advantages offered by our route, and the small sum now required to accomplish their purpose. The President has constantly, by correspondence and newspaper articles, done all in his power to convince our Western friends of the peculiar advantages offered them by our company, but he needs the aid of the able and influential men of the Board and of this city, in this decisive effort, soon to be made.

The Board would call the attention of the Stockholders to the report of the Superintendent, Mr. Gaillard, and the suggestions there made. The company will be prepared to resume the regular operation of the road from Anderson to Walhalla in a very short time, but it is perhaps the better policy to allow the Greenville and Columbia Railroad Com-

pany to use it until the 1st day of June, in the expectation that that company will make such repairs as it is thought good faith requires.

The cash resources of the company have been restricted to the sum of twenty thousand dollars, advanced from the Treasury of the State in bills receivable. From this fund all expenses have been met, and it will enable us to repair the three engines and necessary rolling stock, and keep the engineer corps in the field as long as may be necessary for the present resuming.

The company should, however, return this fund to the Treasury as soon as our finances will admit. Respectfully submitted.

J. W. HARRISON,

President.

April 8, 1869

CHARLESTON, S. C., April 3, 1869

J. W. Harrison, Esq., President Blue Ridge Railroad Company:

SIR:—I have the honor to submit the following report of operations in the Engineering Department of the Blue Ridge Railroad, since the date of my appointment, (January 7th, 1869,) together with such remarks and suggestions as the brief time allowed for examination, will enable me to offer.

Upon entering upon the duties of the office of Chief Engineer, I found that the matter immediately demanding attention, was the preparation of an estimate of the cost of completing the road. There appeared in the printed copies of the reports of the Chief Engineer, estimates in gross of the total cost of the road, and also an estimate of the cost of completing the work dated September 1st, 1860; but these estimates showed the total money value of the work, subdivided only into irregular sections terminating at the State boundaries or at the principal towns along the line. The quantities and prices of the different items of work were not stated.

An examination of the line from Walhalla to Rabun Gap confirmed me in the opinion that no satisfactory estimate could be made, without a remeasurement of the work as far as the North Carolina line. This opinion was communicated to you in my report of January 30th. On the same date I submitted an estimate of the cost of organizing and maintaining the Engineering Department until June 1st, 1869, upon a footing sufficient to enable me to present the estimates by the 15th of May.

The Engineer party was put in the field on the 18th of February, under the charge of Thos. R. Lee, Jr., as Principal Assistant Engineer.

Mr. Lee was formerly in the service of the Company, and his acquaintance with the work, familiarity with the records of the Company which remain, and professional skill, are guarantees that the data for the estimate will be procured at the earliest possible moment. By letter, dated April 1st, he informs me that the party has crossed the Georgia line, and he fixes the 28th of April as the time at which he will reach Clayton.

In my report of January 30th, I fixed April 15th and May 15th, as the dates at which the estimates for the completion of the work to Clayton, and to the North Carolina line respectively, could be furnished. I apprehend now that about fifteen days more of time will be required.

Until the completion of the field work, calculations, plans and profiles, you will not, sir, expect from the Chief Engineer, any detailed report upon the works, the construction of which it is his special duty to superintend.

At the risk, however, of repeating some statements contained in my former report, I will refer briefly to the condition of the work already done.

I have visited all the tunnels and points where the earth-work is specially heavy, and am glad to be able to say, that during the long period of abandonment the road has suffered but little, aside from the ordinary wasting of earth-work long exposed to the weather. From undermining of masonry, breaking of embankments by freshets, falling of the roofs of the tunnels, or other similar accidents, there has been sustained but trifling damage.

The embankments show now about nine feet in width on the top on that part of the work which seems most advanced, but as we have no means of judging whether they were ever of full width or height, the percentage of loss can be but imperfectly stated. In making the approximate estimate of the cost of completing the work to Franklin, which will be found in another portion of this report, the loss from waste of the earth-work already done has been assumed at twenty per cent.

The work presents the most ragged appearance in the cuts, in many of which are heavy slips, but the greater part of such material is now needed to restore the embankments. At the approach to Sadale Tunnel, in South Carolina, is a very serious slip of earth from off an inclined surface of rock. This was anticipated by the former Engineer, who left recorded in his notes, his fear that it would occur, and it is not likely that any precaution or care would have availed to prevent it. That the masonry, complete and unfinished, is so little injured, is due to the very thorough manner in which it was built. There is none of better character in any railroad in the country.

Had the tunnels been through material not self-supporting, eight years of neglect would have occasioned an almost entire loss of the work done, as the weak points were not lined with masonry, but supported by timber which has yielded from decay. They are, however, driven through hard mica schists, which rarely require support, and, except for accumulations of water, are in as good condition as when the work on them was suspended. I have observed in the tunnels but one instance of the falling in of the roof. A section of twenty feet of Worr Woman tunnel in Georgia has given way and a crater opened to the surface of the ground above. It is however less than a hundred feet from the Eastern portal, and is not a matter of great moment.

I expressed in my former report the opinion that twenty months from the time of resuming operations, would suffice for the completion of the longest remaining tunnel (that at Dick's Creek, in Georgia). The road may be completed and the iron laid to the Eastern portal of this tunnel, (twenty-two miles from Walhalla) before it is driven through, and at the same time the road bed may be in readiness to receive the track as far as Franklin, in North Carolina. There is, therefore, nothing in the character of the work to prevent the opening of the road to that place in twenty-two months after resumption of operations.

On the 4th of February, I had the honor to submit a report on the condition of the completed road between Anderson and Walhalla. In that report I make no reference to the condition of the bridges, as I had been informed by Mr. Gaillard, the Superintendent, that steps had already been taken toward procuring the iron necessary for covering them. I have now to repeat the recommendations

contained in that communication, and to add that the bridges should be covered without delay. These are excellent and expensive structures, and should not be a day longer exposed to danger from fire and deterioration from weather. The wooden roofs, which admit the water and exclude the sun and air, are worse than nothing. If the terms of the lease under which the Greenville and Columbia Railroad Company operates the Blue Ridge Road such as require the former company to restore the road in good order at the termination of the lease, it should not be hastily terminated and the road received in its present condition. On the other hand, if repairs are not made at once, the said road will deteriorate in a rapidly increasing ratio, and if that company cannot be required to repair it, we should take possession at once and put it in order. I observed mud and water over the rails in one place at least, and the whole line needs thorough ditching and surfacing up. Not less than a thousand cross-ties per mile should be put in immediately. If these repairs are neglected the iron on the thirty-two miles now open will be ruined long before the company is ready to extend the track.

If the contract can be made without delay with men of capital, experience and energy, little is hazarded in the prediction, that in June, 1871, there will be direct railroad communication between the Tennessee Valley and Charleston. Completed so far, it is impossible that the enterprise should stand still. The difficulties of the route would have been passed; the mountain region, with the tunnels, the heavy earth work, and the expensive structures, which absorb capital, task the patience and test the skill, will be behind us, and from thence to meet the line from Knoxville we follow a route opened by the hand of nature, which has broken the Alleghanies before us, and given the road a clear path to the rich Valley of East Tennessee.

The road would already begin to gather a traffic from the head of the valley of the Little Tennessee, which, I venture to say, will astonish the most sanguine. This is no sterile and uninviting region. Every valley among the hills responds now to the hand of the husbandman and repays richly his labors. The hills and mountain sides are not abrupt, rocky and inaccessible, but present easy slopes and rounded forms, and are covered with a soil capable of supplying in many ways the wants of man.

When production is stimulated by means of access to a market and by the various activities which will accompany the prosecution of the work, there will spring up a local traffic that will go far toward supporting the road.

But I by no means anticipate that it will be necessary to wait for the completion of the road to Franklin before anything can be done beyond that point. Too many interests will unite in demanding the completion of the work to admit of such a delay. Charleston will already feel the quickening touch of trade from that region, and not only the cities of South Carolina, but every town from Franklin to Knoxville and Cincinnati will be vitally interested in urging the comparatively easy work of completing the connections.

Men will no longer be discouraged by demands for immense sums which disappear in the bowels of mountains, expended on works that seem interminable; but stimulated by growing prosperity, and cheered by the near prospect of success, will give to the enterprise a more hearty support.

Undoubtedly long before the road is open to Franklin means will be forthcoming to continue it, and we may confidently predict that the work will not halt again until the merchants of Charleston and Cincinnati meet at the great tunnel to celebrate the opening of the road and the union of the cities.

JAMES P. LOW, Chief Engineer.

CHARLESTON, April 8, 1869.

To J. W. Harrison, Esq., President of the Blue Ridge Railroad Company:

SIR:—Since the last meeting of the Stockholders of this Company the Greenville and Columbia Railroad have operated the road with great regularity and success; but for want of a sufficient amount of power, and the heavy amount of freight to move, and the large increase of that freight, they have not been able to make such repairs on the road bed and ditching which they should have done, but the officials of the road have assured me that they would use all their energies to put the road in better condition before the first of June.

The engine Fort Hill has been repaired at the shops of the South Carolina Railroad Company, and is now on the road up the country, and cost something over \$2,600.

Material has been purchased and a machinist has been employed to repair the Chatuga, and will be put in good order at a cost of about \$1,500.

The other engine, Blue Ridge, is worse out of repair than either of the others, having been burnt by raiders, and the extent of the injury can not be ascertained unless minutely examined at some shop, and is recommended to be sent to some shop to be examined and repaired.

The condition of the road is such that it will require very nearly 1,000 cross ties to the mile, which would put it in first rate condition, as good as when newly laid; and one-half of that amount, say 500 to a mile, would put it in excellent condition.

I would recommend that, owing to the great difficulty of having repairs done to the engines and cars, that the Company buy a sufficient amount of machinery to do our own repairs, and put them up on some point of the road now finished, costing some \$8,000 to \$10,000; and I would also recommend that the Company resume the operation of the road by the first of June next.

It is also recommended that something be done to protect the bridges on the road, as the covering of some of them are in a bad condition, and they are injuring very materially.

Respectfully submitted,

W. H. D. GAILLARD, Superintendent.

Gov. R. K. SCOTT moved that when this meeting adjourns it adjourn to meet on a day to be appointed by the President, on receiving from the Chief Engineer the reports and estimates now being prepared by him. The meeting then adjourned.

W. H. D. GAILLARD, Secretary.

A railroad project is on foot, which, if carried out, will be of immense value to this place. It is proposed by the Baltimore & Ohio road to build a branch from Loveland to Hamilton, by way of Elliston Station, on the C. & D. road. The distance from Loveland to Elliston Station is only about eleven miles, and from there to this city, eight. A connection could be made with the Junction road at this point, which would give the B. & O. the shortest through line from Indianapolis to the sea coast. It would give this city a new route to the East, and a shorter one than the Erie.—*Cincinnati Gazette*.

Mechanics' Institute—San Francisco, Cal.

SEVENTH INDUSTRIAL EXHIBITION.

The Directors of the Mechanics' Institute of San Francisco, will open their Seventh Industrial Exhibition, on the 14th of September, 1869. This is really the mechanical exhibition of the Pacific Coast, and can not fail to prove both instructive and beneficial to meritorious inventions; it offers the very best means of introducing new machinery and thoroughly advertising it on the Pacific coast. The Board in their circular say:

"A finely constructed building has been completed and fitted up at an expense of \$45,000, covering a ground area of 70,000 feet, suitably provided with facilities (free of cost to exhibitors) for the proper exposition of goods. It is thoroughly ventilated, and lighted at night by 1,300 gas jets. A fine pond, 42 by 24 feet, having three fountains, throwing water 50 feet high, and surrounded by numerous small sprays, animates the scene, and keeps the atmosphere cool and refreshing. Two series of galleries surround the main nave, with accommodations to seat 1,500 persons in the lower gallery, and room for 2,000 more to promenade in the upper one. A line of shafting 200 feet in length, provided with all necessary pulleys, etc., and driven by powerful steam engines, furnishes power to working machinery and models.

It is intended to make it essentially cosmopolitan, and exhibitors have been invited from China, Japan, Hawaiian Islands, British Columbia, Mexico, Chili, Peru, and various other points of interest.

The Managers will be glad to receive desirable articles for exhibition, and will accord space for the same if application be made before the first day of August next, stating definitely the character of the exhibit, and the amount and kind of space required. All articles intended for exhibition must reach here by the first day of September following."

BLUE RIDGE R. R.

THE attention of Contractors is invited to the work of completing the Blue Ridge Railroad, in South Carolina, from Anderson, South Carolina, to Knoxville, Tennessee—a distance of one hundred and fifty-two miles to build.

The Executive Committee of the Board of Directors is prepared to enter into negotiations with responsible persons, who may desire to undertake the work.

Payments will be made in first mortgage (7) per cent. currency bonds of the Company, secured by the guarantee of the State of South Carolina, for the punctual payment of both principal and interest. The mortgage covers unencumbered property of the Company, which cost three and a quarter millions of dollars in gold, and embraces fifty miles of road complete and in running order.

Detailed Estimates, Plans, Profiles and Specifications, will be ready for inspection by JUNE 1, 1869. Meanwhile, approximate quantities and other information concerning the work may be obtained by application to Col. James P. Low, the Chief Engineer of the Company, or to the undersigned, at Columbia, South Carolina.

R. K. SCOTT,
Chm'n of Executive Committee.

29-4-9-5t.

T. F. Randolph,

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BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF FORMS.	PRICES.	SIZE NO. OF FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 256	66
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms and also with working plans, if desired.

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L. WILLIAMS, Ass't Sup't, C.H.&D.R.R., Cincinnati.
J. H. WELLER, Ass't Sup't, D.&M.R.R., Dayton, O.
D. McLAREN, Gen'l Sup't, A.&G.W.R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C.&I.J.R.R., Hamilton
C. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., India: at
Aug. 2, 1886.]

THE

STEAM SYPHON PUMP

IS THE

*Most Simple, Effective and Durable Device for
Raising Water by steam, yet discovered.*

It is an independent LIFT AND FORCE PUMP, without piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP.

WITH THE

STEAM SYPHON WATER-STATION

A locomotive can raise water, with its own steam, to fill its tender in the same time as from an ordinary tank; thus dispensing with tanks, pumping machinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops
Shops, Elevators, &c.,

AND BY FAR,

THE BEST BILGE PUMP,

for Steam Vessels, in use

For Circulars and other information, address,

STEAM SYPHON COMPANY,
48 Day Street,
NEW YORK.

VERY CHOICE

Oil Lands

IN

Kentucky & Tennessee,

FOR SALE BY

T. WRIGHTSON,

167 Walnut Street,

CINCINNATI

THROUGH —FROM— CINCINNATI TO NEW YORK

WITHOUT CHANGE OF
COACHES!

—VIA—

Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W. Railway, on Saturday Morning, by the 6:00 a.m. Lightning Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next day, Sunday

2 Through Lightning Express Trains for New York, Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6,15am.....	7,10pm
" Dayton.....	8,35 ".....	9,30 "
Arrive West Salem.....	1,50pm.....	4,53am
" Leavittsburg.....	4,55 ".....	7,35 "
" Meadville.....	7,35 ".....	11,10 "
" Susquehanna.....	7,48am.....	11,29pm
" Paterson.....	2,25pm.....	6,03am
" New York.....	3,15 ".....	7,00 "
" Boston.....	5,45am.....	4,45pm

Sleeping Coaches on Night Trains the entire distance between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday night instead of Saturday night. All other Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
At Mansfield with Pitts., Ft. Wayne
and Chicago Railroad.

THIS IS THE ONLY ROUTE TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely new, of the most modern, substantial, and approved description, unequalled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all Trains.

Ample time is allowed, at all hours,
for meals.

No effort will be spared by the Company to render a trip over the Road pleasant and comfortable to the Passenger.

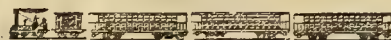
CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE CHECKS,

Apply in Cincinnati at New Depot of Cincinnati, Hamilton and Dayton Railway; or at northeast corner of Broadway and Front streets, and at No. 80 Fourth street, nearly opposite Post Office. Also at any of the principal Railroad and Steamboat Offices, in the West and South-west.

W. B. SHATTUC, Gen'l Ticket Agt. L. D. BUCKER, Supt.

CENTRAL RAILROAD —OF— NEW-JERSEY.



On and after Monday, May 21, 1886, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a.m. and 18:00 p.m. On Sundays, one Express Train at 8:40 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change; cars to Chicago or Cincinnati, and but two to St. Louis. Passenger from the East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m., Pittsburgh 12 night

9:00 a.m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville. arrives at Harrisburg at 8:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS Train from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN, from the West, leaving Pittsburgh at 4:20 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:40 a.m.; Allentown at 6:00 a.m.; Easton at 7:09 a.m. Through cars from Pittsburgh to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pittsburgh at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:52 a.m.; Allentown at 12:02 p.m.; Easton at 1:10 p.m. Through cars from Pittsburgh to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing Reading at 10:40 a.m.; Allentown 12:30 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

2:10 p.m.—FAST MAIL, from the West, leaving Pittsburgh at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 10:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7.00 A. M.	9.10 A. M.
Springfield & St. Joseph Ex.....	12.00 P. M.	4.30 P. M.
St. Louis & Chicago Ex.....	4.55 P. M.	12.15 A. M.

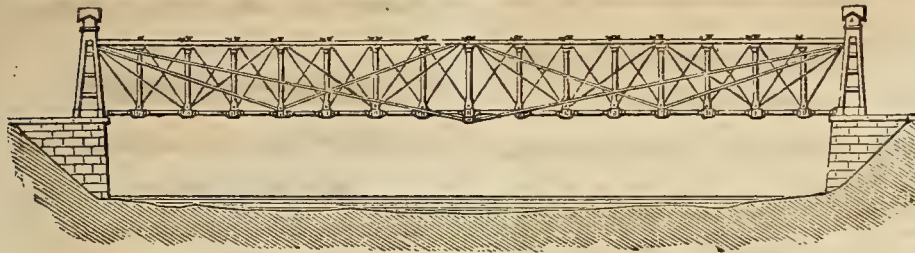
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5.15 P. M.	5.05 A. M.
Harrison Accommodation.....	10.10 A. M.	2.25 P. M.

Through Tickets can be obtained at the Burnet House, Spencer House and Gibson House Offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

—In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1392.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and railroad works to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunities of obtaining information enable us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Floor Tire (to fit centers without boring), Composition Castings for Bearings, every description of Copper, Sheet Iron and Boiler Work, and every article appertaining to the repair or renewal of locomotive engines.

KNOX & SHAIN,
ENGINEERING & TELEGRAPHIC
INSTRUMENT MAKERS

Philadelphia, Pa.

W. M. F. HEWSON,

STOCK BROKER,

21 WEST THIRD STREET, CINCINNATI.

Buys and sells Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collections

AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
B. E. Cor Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads, still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,

No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent.

Pittsburg, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

[WITH

Productive Wells all

around them.

FOR SALE BY

T. WRIGHTSON,

167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS
—IN—
Railroad, Car and Machine Shop.

SUPPLIES,

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
330 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS,

Made at his Shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight. All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.
Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,
Chilled Railroad Car Wheel, Ty

—AND—
Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly to tent for the celebrated Wheels, either single or double plate with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner the shortest notice, and on the most reasonable terms.

PASSENGERS

Purchasing Tickets via

Baltimore & Ohio R.R.

-TO-

BALTIMORE,

PHILADELPHIA,

NEW YORK, and

BOSTON,

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON



Fare to Washington City same as to Baltimore.

J. L. WILSON, Master of Transportation.
L. M. COLP, General Ticket Agent.
N. O. W. BROWN, General Passenger Agent.

Dec. '67.

Cincinnati, Hamilton & Cayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 31 A. M.
Hamilton Accommodation.....	.....	6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; or at the new office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.

JANUARY 5th, 1868.

Cincinnati to St. Louis Without Change of Cars.

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cincinnati,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine street, Corner Front and Broadway; and at Depot, Foot Mill Street.

C. E. FOLLET Gen. Passenger Agent
J. W. (MILLER) General Superintendent

Best Route to St. Louis and Chicago

INDIANAPOLIS,
CINCINNATI
-AND-
LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,
CAIRO,
CHICAGO,Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha
And all Rail and River Towns and Cities in the West, North west and South-west.5 THROUGH TRAINS DAILY,
(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express...	7 00 am	10 50 pm
Indianapolis and Cairo Express.....	6 10 am	2 30 am
Cairo and St. Louis Express.....	3 00 pm	4 08 pm
Springfield, Quincy and St. Joseph Express.....	3 00 pm	4 08 pm
Chicago Lightning Express.....	6 50 pm	11 30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11 00 pm	6 15 am

No change of cars between Cincinnati, St. Louis and Chicago.
Elegant Sleeping Cars on all night trains.

ACCOMMODATION TRAINS.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10 10 am	8 35 am
Harrison.....	5 30 pm	9 15 am
Lawrenceburg.....	4 45 pm	2 00 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and First streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

MOSELEY'S WROUGHT IRON ARCH

BRIDGES,

AND

CORRUGATED IRON ROOFS

ARCHED AND FLAT.



CORRUGATED SHEETS, OF ALL SIZES, constantly on hand, painted, and ready for shipment, with instructions for applying them.

MOSELEY & CO.
Boston, Mass.

EDWIN J. HORNER,

Successor to

McDANIEL & HORNER.



Locomotive and Railroad

CAR SPRING MANUFACTURER,

Wilmington, Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn

JOHN A. WRIGHT, Sup't.

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works June 9

THE SCHENECTADY
LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.,

Continued to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING
LOCOMOTIVE ENGINES

AND OTHER

Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding the work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.

PASCAL IRON WORKS.

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1 1/4 to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from 1/2 inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

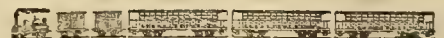
Cast Iron Gas or Water Pipe—from 1 1/2 to 34 inches in diameter, and branches for same. &c., Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. P. M. TASKER
HY. G. MORRIS.

Philadelphia, Wilmington & Baltimore

RAILROAD!



FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY
4.15 (Express Monday excepted); 8.15 A. M.; 11.45 A. M. (Express); 2.30 P. M.; 11.30 P. M. night.
On Sundays: 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West 7.35 A. M. 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)
SUNDAY TRAINS—Leave Philadelphia for Baltimore and Washington at 4.15 A. M. and 11.00 P. M. Leave at Baltimore for Philadelphia at 8.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD,
T. WRIGHTSON. } Editors

CINCINNATI:
THURSDAY, MAY 13, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.

OFFICE—No. 167 Walnut Street

SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 1.00
“ “ per month.....	3 00
“ “ six months.....	12 00
“ “ per annum.....	20 00
“ column, single insertion.....	5 00
“ “ per month.....	10 00
“ “ six months.....	40 00
“ “ per annum.....	80 00
“ page, single insertion.....	15 00
“ “ per month.....	25 00
“ “ six months.....	110 00
“ “ per annum.....	200 00

Cards not exceeding four lines, \$5.00 per annum.

WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

ERIE, AND ATLANTIC & GREAT WESTERN.
Morning Express leaves 6:00 A. M.; arrives in New York 3:15 P. M., next day.
Fast Express leaves 9:15 P. M.; arrives in New York 7:00 A. M. second morning.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	3:15 P. M.
Fast Line.....	4:00 P. M.	11:00 P. M.
Lightning Express.....	10:00 P. M.	6:00 P. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillsboro Accommodation.....	3:40 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:55 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.)...	6:40 A. M.	5:20 P. M.
do do do.....	9:15 P. M.	6:00 A. M.
Toledo, Detroit & Canada.....	6:15 A. M.	10:25 P. M.
do do do.....	7:00 P. M.	7:25 A. M.
Lima, Ft. Wayne & Chicago.....	6:15 A. M.	10:25 P. M.
do do do.....	2:30 P. M.	6:40 P. M.
do do do.....	7:00 P. M.	7:25 A. M.
Sandusky, Cleveland & Buffalo.....	6:15 A. M.	6:40 P. M.
do do do.....	7:00 P. M.	10:20 A. M.
Connorsville & Indianapolis.....	6:15 A. M.	10:25 P. M.
do do do.....	2:40 P. M.	4:15 P. M.
Connorsville & Newcastle.....	6:00 P. M.	10:20 A. M.
Hamilton, Eaton & Richmond.....	6:15 A. M.	10:25 P. M.
do do do.....	5:00 P. M.	10:25 A. M.
Hamilton Accommodation.....	9:30 A. M.	8:05 A. M.
do do do.....	6:00 P. M.	6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

Connorsville, Rushville and Indianapolis Mail.....	6:15 A. M.	10:20 P. M.
St. Louis and Indianapolis Exp.....	2:30 P. M.	4:15 P. M.
Cambridge City and Newcastle.....	6:15 A. M.	10:00 A. M.
Cambridge City and Newcastle.....	6:00 P. M.	10:25 P. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	6:00 A. M.
New York Express.....	10:00 P. M.	5:00 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	8:45 A. M.
Springfield Express.....	3:40 P. M.	3:45 P. M.
St. Louis Lightning Express.....	11:00 P. M.	1:15 A. M.
Lawrenceburg Accommodation.....	10:00 A. M.	2:35 P. M.
do do do.....	4:45 P. M.	8:10 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	3:45 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:00 A. M.
Harrison Accommodation.....	6:05 P. M.	6:42 A. M.
Chicago and Cambridge City.....	6:30 P. M.	10:15 P. M.

OHIO AND MISSISSIPPI.

For St. Louis, Cairo.....	7:00 A. M.	6:00 A. M.
Evansville and Louisville.....	5:10 P. M.	9:00 P. M.
do do do.....	10:15 P. M.	11:15 P. M.
Only Sunday trains are 5:10 P. M., leaving, and 6 A. M. arriving.		

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

Cincinnati Southern Railroad.

The question of the greatest interest at the present moment to Cincinnati is what point shall be named as the Southern *termini* of the proposed railroad designed to connect our city and the railroads north of the Ohio with the Southern system of railroads. The Legislature has, in its wisdom by the passage of the Ferguson Act, granted power to the city of Cincinnati, being a city of the first class, to declare it necessary for the interest of said city, that a certain line of railroad should be constructed, and to make the necessary financial provision for its completion; and although there is but one idea as to the general direction in which this road should be made, there are diverse views as to the proper Southern terminal point, as well as to the most practicable, easily constructed and best route to reach any or all of them. There are four prominent terminal points now before the People, viz.: Nashville, Knoxville, Chattanooga in Tennessee, and Decatur, Ala. Each have their advocates among our citizens, and all have sent very intelligent and efficient delegates to lay their peculiar claims and advantages before the committees of our City Council, the Chamber of Commerce, and the Board of Trade. To decide this important question in a calm, dispassionate manner, to the best of their ability, with the light set before them, is now the duty of the City Council.

Let us for a moment look at the present and prospective status of the different cities named as to their availability as aggregating and distributing points for the business that we seek to transact by the proposed road.

First, let us determine what is the section of country to which we desire to carry our wares and barter them for their products, and which nature has apparently laid out as the especial market of Cincinnati, and to which this avenue of commerce is now needed. This certainly does not mean the territory west of the Mississippi, nor that immediately contiguous to its eastern bank. The noble "Father of Waters" already bears an imperial commerce, and affords us the best and very cheapest possible transit for our traffic. The Atlantic Ocean on the East, supplies equal facilities as a highway for the goods and manufactures of the Eastern shops and store-houses. It is the great inaccessible, yet productive center that we want to reach—where our manufactures now are known, but do not go, and where, if the road was built, the competition of other manufacturers would not have an undue advantage over them on account of the cheapness of freights. This is the market that Cincinnati needs—this is what she must have. How can we best attain it? We assert by going to

CHATTANOOGA,

Among others, for the following reasons:

Chattanooga is so situated, geographically and topographically, that she must ultimately become the greatest railroad center not merely in Tennessee, but in the whole Southern country. Of her future, there can be no doubt. She is situated at a point where numerous rich valleys converge, and where the Tennessee River turns westwardly, four hundred miles from its mouth. Six railroads, from different points of the compass, meet at Chattanooga. One connects her with the railroad system of Virginia and the whole North Atlantic seaboard; another with Nashville; a third connects Chattanooga with the South west and the mighty Mississippi Valley; a fourth stretches southeasterly to Atlanta, and connects with all the lines of travel in Georgia and the Carolinas.

Another is the line to Dalton, from which point extends the line of the Selma, Rome and Dalton Railroad, to be completed this summer. This line of road reaches, under one management, two hundred and forty miles into the very heart of Alabama, and runs through the very best cotton region of the South, and the great mineral district of the Cahaba valley. It is partly owned and under the control of our enterprising citizen, A. D. BREED, Esq., and with its connections, constructed and contemplated, will form the short line to both Pensacola and Mobile. At Selma this road makes extensive east and west connections. The other is the road to Trenton, at present of but little importance, but with the assurance that enterprise, abundance of capital and certain profit gives of its being constructed down the Wills Valley, cate-cornered across the State to Marion, Mississippi, and the projected extension to Mobile and New Orleans, it will not be second in importance to any road centering at this point. It will pass through the mineral and manufacturing region in North Alabama, through the grain growing and cattle raising region of Middle Alabama, the cotton plantations of the South, and the sugar growing lands that border the Gulf and connect with roads from Mobile and New Orleans. It is intended to fork at Elyton; the East branch, a separate organization, to go to Mobile, and for which money is to-day being raised in that city, urged forward by the impetus afforded that Cincinnati is going to Chattanooga to meet them, while the West line will go to Marion, as above stated, and thence to New Orleans. These last two lines will connect Chattanooga with all the leading towns and cities of Alabama.

Chattanooga is the key to the Southern system of railroads, which like the ribs of a fan concentrate from the South, the East and the West, and presents the handle for the grasp of Cincinnati. The great Appalachian chain of mountains trending from the North-east to the South-west, can not be crossed like the prairies of the West in air lines, it can only be done through the gaps, and there is

no gap so well adapted to this purpose as that of the Emory river.

Further,—By constructing the line to Chattanooga we will also secure the line to Knoxville, now almost completed from that city to the point of intersection, affording another outlet to the sea *via* Charleston, and also eventually *via* Asheville to Wilmington, N. C. This is as certain as that water runs down hill. With Nashville we have already a short line route; but in addition to which the people of Kentucky, under a charter granted last winter are determined *without our help* to construct another, passing through some of the best and richest counties of the State. It is to begin in Henry county, where the Cincinnati, Louisville and Lexington Railroad crosses the Kentucky river, if a proper running arrangement can be made with that road from that point to this city; if not, then to begin at Cincinnati. It will run through Henry county, and the counties of Shelby, Spencer, Nelson, Washington, Marion, Taylor, Green, Barren, a corner of Monroe and Allen, in Kentucky, and Sumner and Davidson, in Tennessee. It is to be mainly constructed by county subscriptions to stock, a sufficient amount of which has been already pledged by the leading men of the counties through which it passes. As Cincinnati *can not help*, they are going to *do it alone*. Hence there is no reason for taking the job out of their hands; they are fully competent and will do it. Let us therefore bid them God-speed, and *let them alone*. The McMinnville route to Decatur has merits, and will also be eventually made, but its completion is further in the future. It passes for a large portion of the way through a good agricultural country, and on the borders of Kentucky and Tennessee through a rich mineral belt, of coal, iron, oil and salt. At Decatur it would connect with the Memphis and Charleston road, running east and west, and also, in the course of time, south, by roads to be constructed through Alabama. By this line, we would lose all chance of a short line to Knoxville, and could gain but very little over the present route to Chattanooga. Whereas, if the Chattanooga road is made, this route also will be constructed, and made tributary to the main stem.

The receipts of the Western Union Railroad Company, for the week ending April 30:

	1869.	1868.	Increase.	Decrease.
Freight.....	\$8,195 96	\$12,929 27	.....	\$4,733 31
Passengers...	4,349 35	4,056 45	293 10	.....
Express & Tel.	312 50	310 00	.....	25 50
Mail.....	375 00	350 00	.....	.....

Totals.....\$13,193 81 \$17,710 72 \$253 10 \$4,776 81

Receipts from January 1, to April 30:
1869.....\$1,039 04
1868.....\$175,547 12

Increase.....\$4,791 92

An iron bridge on the Wisconsin Division of the Chicago and Northwestern Railway, over the Fox River at Oshkosh is to be built.

SOUTHERN RAILROAD.

Cincinnati & Chattanooga

[Communicated.]

EDITORS RAILROAD RECORD—*Gentlemen*: Allow me to present the following as some of the reasons why Chattanooga should be selected as the Southern terminus of the proposed Southern Railroad from Cincinnati:

1. Chattanooga is situated in the great trade line sought to be established and perpetuated between Cincinnati and the centers of population and commerce in the interior South.
2. Topographically considered, it is situated at the point from which radiate all the great valleys that permeate in almost every direction, the Appalachian Mountains surrounding.
3. Through these valleys, radiating from *this point*, five first-class railways traverse all this great interior region from the North to the South and East and from the East to the West and South, are at present in full and unrestrained operation.
4. Chattanooga is the key to the Southern system of railroads. It was the geographical center of the late Southern Confederacy, and its recognized importance as a strategic point during the war is the best evidence of its present and prospective advantages as a center for the distribution of goods and manufactures.
5. The great Appalachian chain of mountains can be crossed by a railroad at only one gap without tunnelling and heavy grades, and that is at Emory River, on the line surveyed by Mr. Gunn and Colonel Gaw. All other lines exceed for their heaviest grades 100 feet to the mile, while on this line no grade is over 80 feet, and three short tunnels only required from Cincinnati to Chattanooga.
6. This line, for the most part, follows the trend of the ridges running with the country. All other proposed routes are across the country. Across the country means encountering a continual succession of ridges, necessitating heavy grades and frequent tunnels.
7. Object of Cincinnati is to establish a grand trunk line with the great producing section of the South, and not merely to get to the sea board or the Mississippi.
8. Former shipments from Cincinnati *via* Baltimore to Charleston were distributed by rail in interior cities, Macon, Augusta, Montgomery, Selma, etc., which are much nearer and easier reached by the route *via* Chattanooga.
9. Trace the cotton belt on map. Its true limit is the Spanish hanging moss. Chattanooga is seen to be the key to all this region. It produced in 1868 \$250,000,000 worth of cotton.
10. Trace the mineral region, coal, iron, clay, building stone, timber and facilities for making iron. This route is unequalled for

mineral wealth by any other line in the United States.

11. Trace the two ellipses of which Knoxville and Charleston, and Chattanooga and Pensacola are the foci. See where the railroads are and the productive sections of the country.

12. This route has been surveyed and mapped with care upon the most eligible location, without regard to private interests, mostly under military orders, and with reference only to securing the most direct and practicable line. *

PERSONAL.—We learn that the managers of the B. & O. Railroad, with that good sense and sound discretion that usually controls all their appointments, have placed that veteran passenger agent, G. B. Gibson, Esq., who was for seventeen years connected with the passenger department of the New York Central, but for the past year with the O. & M. road, in the control of the Western Department of their passenger traffic. We congratulate the B. & O. on securing the services of Mr. G., for if he does not understand his *biz*, then there is no use trying to learn.

PERSONAL.—J. W. BROWN, Esq., for many years the General Ticket Agent of the Central Ohio R. R., but more recently the General Western Passenger Agent of the B. & O. Railroad, has been appointed General Western Passenger Agent of that popular Eastern route, the Pan Handle Line, with headquarters at St. Louis. If industry, a thorough knowledge of his business, and eminent qualifications for the position can add to the popularity and profits of the Pan Handle, we think they have been successful this time in putting "the right man in the right place."

NEW MUSIC.—"Children's Voices," is a song intended to "wake sweet memories of childhood's dreams," by Claribel; "Musical Chimmings," by Miss E. Bugbee, dedicated to and with a portrait of the Most Rev. Archbishop Purcell, is a sweet song, that tells of the music of "vesper bells," and elevates the thoughts to sacred things; while "Tell me what's a Married Man to do," by Sol Smith Russell, is full of humor, if rightly sung, and a good hit at many of the troubles of the times. "Call him back before too late," is a burlesque by C. Maunsi, on female fickleness, and will be appreciated by those who are fond of this class of Music. "I wish I was a Fish," is a sentimental burlesque, by C. W. Hunt; while "Happy Uncle Ben," is a negro Minstrel Song, of the same class, but full of good music. "Forever and forever," is addressed to Sister Superior Louise, this is a more solemn piece, but the music if well rendered is very fine. "Whisperings from Fairy Land," is a Mazurka by Lucy E. Skinner. These and all other new music can be had of John Church, Jr.

SOUTHERN RAILROAD.

Board of Trade Meeting.

DELEGATES FROM GEORGIA, TENNESSEE AND KENTUCKY.

The passage of the Ferguson Act by the Legislature of Ohio, enabling Cincinnati to construct a railroad to the South, has awoke a warm feeling of interest throughout the length and breadth of the land to be affected by the enterprise. The Committees of the City Council, the Chamber of Commerce and the Board of Trade, met on Saturday, the 8th instant in the Board of Trade rooms to listen to and consult with gentlemen from various portions of Kentucky, Tennessee and Georgia. The hall was full of the most active energetic business men of the city, and the cordiality of feeling manifested between the gentlemen from the South and our manufacturers and business men can not fail to result in good to our city.

W. H. Harrison, Esq., the Chairman of the Committee of the City Council was appointed chairman and D. Wulson, Secretary. Mr. Harrison, on taking the chair remarked that the object of the meeting was to listen to distinguished gentlemen from various localities of the South, who were present in the interest of the contemplated Southern Railroad. We copy from the *Gazette* the remarks of delegates:

GOV. BULLOCK'S REMARKS.

Gov Bullock, of Georgia, was first called upon. He said he was not here so much to recommend any particular route, as to show the deep feeling his people had in regard to a direct connection with Cincinnati, and the desirableness of a closer railroad connection with the North and West. He said the State of Georgia had built the line from Atlanta to Chattanooga, connecting themselves with the railroads in Tennessee, and thought it would be to the interest of Cincinnati and the State of Ohio to aid in the improvement of the system already in operation.

"With regard to the route," he said, "we would only suggest that the gentlemen of the committee would examine carefully, by aid of the best maps, the railroads already in operation, or for the completion of which provision has been made. We are satisfied that the careful examination of the chief railroads which have been built in connection with the roads from this city, East, North and West, will show that, by the construction of a line of trunk road between Cincinnati and Chattanooga, a direct connection may be made for your commerce, which is now forced to go by a roundabout route between these cities. We, therefore, from our own examination, believe that this is the best point, and we do not recommend it without asking that the gentlemen will pursue the same course of examination by which we have arrived at our conclusions.

"The policy of the State of Georgia has been to foster railroad improvements whenever they were started by private enterprise with a reasonable ground for belief that they would be profitable, either to the stockholders

or beneficial to the State at large. We have already completed a line of road from Savannah to Dalton, in Georgia.

"We have extended a line which runs through the South from Atlanta to Macon, thence to Thomasville, which would make an air line connection. This is on the proposed route from Cincinnati, which would also be a direct air line route. Colonel Hulbert, the Superintendent of our State Railroad, is fully informed of the route proposed, and is advised as to the connection which it is conceived desirable to make. Col. Gaw, the Chief Engineer of the Atlantic & Western road, is also fully informed of the service and advantage of the proposed line.

"The disposition of the people of our State is to aid, as far as they can, in making a railroad connection with the people of the North and West, and to do everything to aid the system of internal improvement by which they can procure an interchange of commodities, and promote amicable relations existing between different sections of the country."

KNOXVILLE.

W. J. Ramage, Esq., of Knoxville, was called upon. He said they were constructing a road from Knoxville northwardly, called the Knoxville & Kentucky Railroad. Thirty-two miles was in actual operation, and fifteen miles additional road was partially graded. They had built three tunnels, one of which was 1,263 feet in length. They were now about seven miles above Jacksboro, and were prepared to proceed northwardly and connect at State Line with the road from Louisville by way of Lebanon, Mt. Vernon and London, Kentucky, or connect at Chitwood with the road proposed from Cincinnati to Chattanooga. They were now about 19 miles from the State line, and about 23 miles from Chitwood. As far as Knoxville was concerned, he thought they would prefer to make the connection with the Cincinnati road. He said it was estimated that the latter connection could now be made for \$562,000.

The Government of South Carolina had been engaged in building the Blue Ridge road northwestwardly since 1856. This was completed to Walhalla, near the northeast corner of Georgia, and to connect with it Knoxville had been building a road southwardly, which they hoped to continue until they should be in direct connection with Charleston. They also hoped to construct a road from Morristown, on the East Tennessee & Virginia Railroad, forty-two miles from Knoxville, to connect with the North Carolina roads to center at Ashville, North Carolina, a distance of about forty-nine miles.

DANVILLE, KY.

Judge M. J. Durham, of Danville, was called upon. He said he hesitated to make suggestions to solid business men such as were before him, who would carefully examine all the routes before making a decision in this matter, and he would content himself with simply presenting the interests of Danville. He understood the object of Cincinnati was to have a grand trunk road, and he believed Danville was on the line to the great systems of railways in the South. Whether they selected Chattanooga, Knoxville or McMinnville route, Danville was so nearly on the direct line that, with much of the work already done between Danville and Nicholasville, with the piers and anchorage of the bridge over the Kentucky about completed, combined with other favorable features, it would be to the interest of Cincinnati, to pass through their place. If they left the Ken-

tucky Central at Paris, they would leave Lexington to the west, and abandon the counties of Boyle, Mercer and Lincoln to go to Louisville with their trade. Besides, there would be more road to be constructed, and additional bridges to be built, as well as a rough country to be penetrated.

"If you make an advantageous arrangement," he said, "with the Central Kentucky Railroad, and I take it for granted you are some time or other to have the entire control of that road, with 112 miles of road already finished—and if it is not a first-class road already, you may make it so in a very short time; with the 112 miles to Nicholasville, but 113 more remain to connect Chattanooga, upon this grand route going by way of Danville; gentlemen, you have heard the frank assertions of the gentleman from Knoxville; all he asks is for you to build to the southern line of the State at Chitwood, which is upon this route, a little to the east, and he says they will build up to that. So far as the conflicting interests of Knoxville and Chattanooga are concerned, if you gentlemen will undertake to say, 'we will build to the State line,' don't you see that Knoxville and Chattanooga will come to it?"

He said as far back as 1851 they made an effort to get the Kentucky Central. They taxed themselves \$150,000, and raised \$50,000 by private subscription, but this fell into the hands of men not equal to the emergency, and the road was never completed. He said Mr. Guthrie had seen fit to run the Lebanon branch of the Louisville & Nashville road four and a half miles from their town—just far enough away to annoy them with their locomotive whistle. The trade of that locality went to Louisville; but it should not be so. The people of that county had wanted and now wanted to come to Cincinnati, and, by two votes, had agreed to give a bonus of \$150,000 to build a road for that purpose. It was natural they should come here. Only give them the road, and they would buy and buy, but not any more than they could pay for [laughter], and patronize Cincinnati to its heart's content.

When the Judge sat down he was very heartily applauded.

THE CHATTANOOGA ROUTE.

Mr. W. A. Gunn, of Lexington, who had made the surveys in the direction of Knoxville under the direction of General Burnside, and who subsequently continued them to Knoxville and Sweetwater, was called for and responded. He gave a history of the early efforts of Cincinnati to get a Southern road, and of the various Surveys that from time to time had been made. The route to the southern line of Kentucky by way of Waynesburg and Somerset, and the big south fork of the Cumberland, was the Burnside route, and had been run without regard to local interests. In order to procure the best possible route. After crossing the Cumberland the backbone was surmounted which carried them into Tennessee, much of which was flat woods table lands. He had surveyed the route through to Sweetwater, on the Knoxville & Chattanooga road, crossing the mountains, which in general present formidable barriers to the building of railroads by following the Clinch and Tennessee rivers into the great valley of the Tennessee. From Cincinnati to Lexington was 99 miles, Lexington by way of Nicholasville (9 miles from Lexington), to which the road is contemplated to the Kentucky State line, 126 miles; Kentucky State line to Sweetwater, on the Chattanooga road, 90 miles;

Kentucky State line to Emory Gap, Tennessee, 59 miles; Emory Gap to Chattanooga, 73 miles. Total distance from Cincinnati, by Lexington, Nicholasville, Danville and Somerset, Kentucky, and Emory Gap, Tennessee, 357 miles. Distance from Cincinnati to Knoxville (by way of the same route as far as Chitwood), 296 miles. There was no bridging between the Kentucky and Cumberland rivers.

At the Kentucky river the towers and anchorage was about done. They had been well constructed by Mr. Roebling, then of this city. They were pounded on and anchored into solid rock. \$300,000 would probably complete the suspension bridge, or construct such a one as was building at Louisville. About \$50,000 of grading had been done south of Kentucky river.

The maximum grade from Cincinnati to Sweetwater was eighty feet to the mile. The estimated cost of the road from Nicholasville to Sweetwater, including running stock (basis of 1866), was \$40,000 per mile.

The road by way of Lancaster would be about five miles shorter than by the Danville route, but it would throw away about a half million dollars of work already done; a heavy descent to the river would occur, and about \$400,000 subscriptions be abandoned.

He made allusion also to the road Louisville was endeavoring to get through by way of Lebanon, Mount Vernon and London to Tennessee. It was completed as far as Mount Vernon. Work has been done as far as London, but had recently been suspended on account of a change in the management of the Louisville & Nashville road. He did not think it would ever be completed to Knoxville as it would be six miles shorter to Dalton, by way of Louisville and Chattanooga, than by way of their prepared route to Knoxville.

CHATTANOOGA.

Col. W. B. Gaw, Superintending Civil Engineer of the Tennessee river improvements, was next called upon.

He said, as a general thing, engineers are not so conversant with rhetoric as with mathematics, and in view of this fact you will not expect from me remarks as ornate or as elaborate as were those of my friend, Judge Durham, of Danville, who preceded me. In connection with what I am about to say relative to the important subject under consideration, you will permit me to make allusions frequently to the map hanging before us. This map, you will observe, is a copy of General William T. Sherman's campaign map, and is presumed to be a thoroughly correct delineation of the geographical and topographical features of all the Southern States east of the Mississippi river. You will also observe that the line of the contemplated Southern Railroad is traced upon this map, starting from Nicholasville, Ky., the present terminus of the Kentucky Central road, thence to and traversing the valley of the Big South Fork of the Cumberland, crossing the State line three miles to the westward of Chitwoods, entering the valley of the Big Emory, passing within three miles of Montgomery on the west side, and twelve miles further on entering the rich and fertile Tennessee valley, which it follows to Chattanooga. The line surveyed by Mr. Gunn in 1866 embraces the one above mentioned up to that point, where the Tennessee valley is reached.

And, in obedience to the following facts, we of Chattanooga were impelled to continue the survey of the line to our own city. These facts consist in the importance of Chat-

anooga's position, topographically and geographically considered. This point is on the south side of the Cumberland mountains (which belong to the great Appalachian range), and is located in about 35° of north latitude. It was the central point in the late Southern Confederacy, and is situated at a spot where radiate all the great valleys which permeate, in almost every direction, the Appalachian mountains surrounding them, and afford easy access to adjoining States. Through these natural avenues of communication seven first class railways traversing the interior sections from the North to the South and East, and from the East to the West and South, have been constructed and are now in successful operation, at an original cost of over one hundred millions of dollars. Now Chattanooga is hard upon the northern limit of the great cotton growing section of the Gulf States, which, in 1868, produced \$250,000,000 worth of cotton, and these railroads radiating from it in all directions into that productive section offer a speedy transfer of the fleecy staple to this great natural center. It was the consciousness of this great fact that has so earnestly impelled our citizens not only to desire a direct northern communication by rail with this city, but more than that, to complete the survey of the line which I now point out, by taking up Col. Gunn's work at Emory River Gap, and carrying it on through the Tennessee valley to Chattanooga.

When, thirty years since, the establishment of a direct Southern line was first advocated, the center of population and trade in the Southern States was located further eastward, somewhere near the system of railways in the Carolinas; now it is further westward, and finds itself somewhere in Northern and Central Georgia. Chattanooga is upon the direct line connecting Cincinnati with this great center, a fact sufficient of itself to justify its selection as the terminus of the proposed enterprise connecting the Northern and Southern system of railways.

If you draw an isosceles triangle, with one angle resting on the eastern end of the cotton belt, and one angle on the western end, and the apex of the triangle resting on Cincinnati, you will discover that Chattanooga lays where the perpendicular of this triangle, passing through the apex, would cut the base in the exact center of the cotton belt. This fact shows that if a terminus should be selected to the west of Chattanooga, or to the east of that point, the line extended into the interior south would not strike the centers of trade and population, nor would the auxiliary lines to the great trunk on the west be induced to completion if the terminus is selected east of the perpendicular, and *vice versa*, the auxiliary lines on the east would probably be abandoned, if the terminus was selected to the west of the perpendicular.

These cogent facts induced us, shortly after Colonel Gunn had made his survey to a connection at Philadelphia with the East Tennessee & Georgia road, to begin at Chattanooga, believing that the more eligible point and trace a line thence to where his survey emerges from the Emory River Gap, a distance of sixty-four miles. I need not tell you that the line is a straight one and involves very low grades, a matter of great importance in the construction of railroads. These low grades are obtained by reason of the mountainous region of East Tennessee, preserving a wonderful parallelism of ridges, trend northeast and southwest; and it is to this fact that the line of survey in its entire length being located in one of these valleys included

between two of these ridges offers such facilities to the engineer. As Prof. Safford, State Geologist of Tennessee, well remarks: "Across the country is here a very significant phrase. The luckless traveler, whose way lies in that direction, understands it, and, unless happily favored with breaks and gaps in the ridges, prepares for

'Wave on wave succeeding.'

On the other hand, 'up or down the country' is equally significant of good level roads, and enables the tardy driver to make time."

I speak of these low grades, for the reason that we all know what they mean in railway building, and particularly when we now hear of Northern and Eastern roads being rebuilt in order to lessen the heavy grades of original construction. Within the limit of the line of survey we have 21 miles of level grade, 15 miles of grade from 10 to 20 feet, 10 miles of grade from 20 to 30 feet, 9 miles of grade from 30 to 40 feet, 8 miles of grade from 40 to 50 feet, while only 3 miles are from 50 to 55 feet to the mile, our maximum grade, 60 feet, being as low as any maximum grade on any of your roads here. I have thus been particular in the matter of grades, in order to show you how cheap this line of road may be built. We have no curvatures the radius of which is less than 1,000 feet. We have but few bridges to build. From these and other advantages we do not hesitate to pronounce the route as one presenting first class characteristics.

Mr. Gunn told you that he carried his survey to a connection with the East Tennessee & Georgia Railway, near Philadelphia. This seems a practical idea to many railroad men in reaching a Southern system of roads, but it will not bear investigation. It does not give a connection so desirable or so advantageous as would be secured by continuing the line from Emory River Gap to Chattanooga; and more than that, it puts a third party between you and the Southern system of railways centering at Chattanooga.

It should not be forgotten that we have close corporations in Tennessee, and occasionally we have pretty hard men to deal with. By continuing the line to Chattanooga, liberal connections and even consolidations may be made, if desired, but this can not be done at any other point of terminus.

In conclusion the speaker advocated the route via Danville, Kentucky, by stating that if Cincinnati looks to her interests so far as passing through a very productive region of Kentucky, and the easy obtainance of additional franchises if required, she will take Danville in her railroad route to the South. He also spoke of being in possession of much information on the subject of the Southern railroad and intimated that he would always hold himself in readiness to discuss the subject of terminus, and further intimated that he thought he could refute the argument held by E. D. M. in his article of Friday morning in the Cincinnati Gazette.

RAILWAY SYSTEMS OF THE SOUTH.

Colonel E. Hulbert, Superintendent of the Western & Atlantic Railroad from Chattanooga to Atlanta, was announced as the next speaker. He called attention to the fact that Chattanooga was the northern central point of the great system of Southern railways.

Chattanooga stands in the lower Cumberland Gap, the great water gap through which the river passes; the great railroad lines from the Atlantic coast, from the Gulf of Mexico, from the direction of New Orleans, all verge from that common point. They converge

there, as explained by Colonel Gaw, from absolute necessity occasioned by the conformation of the country. They could not have been built otherwise.

The first great trunk is the Atlantic & Western, from Chattanooga to Atlanta, 138 miles in length, with an income of \$1,250,000, connecting at Atlanta with the Georgia road, from Atlanta to Augusta, Ga., 171 miles, with an income of \$1,500,000; connecting also with the South Carolina Railroad, from Augusta to Charleston, and branch to Columbia, S. C., 205 miles, with an increase of about \$1,250,000, and with the Wilmington and Manchester road, Kingville to Wilmington, N. C., 171 miles, with an income exceeding half a million dollars.

Returning to Atlanta, as a starting point, we have thence to Macon, Ga., the Macon & Western road, 103 miles, with an income of about \$400,000 per annum; connecting with the Southwestern Railway to Eufala, Ala., 143 miles, with branches to Fort Gaines and Albany, Ga., 51 miles, a total of 194 miles of the Southwestern road and branches, with an income of over \$800,000 per annum.

Returning to Macon, we have the road from Macon to Savannah, Ga., by the Central road, with its branches to Milledgeville and Augusta, Ga., 288 miles, with an income of \$1,500,000; also, the Atlantic & Gulf road—Savannah to Bainbridge, Ga., 230 miles, with a side line of 40 miles, connecting with the entire railway system of Florida; total earnings exceeding one million dollars.

Again, in immediate connection with the latter, are the Florida roads, of an aggregate length of 300 miles. Earnings \$800,000.

Returning to Macon, from thence to Columbus, Ga., by the Southwestern road, 50 miles, and the Muscogee road, 50 miles, with total earnings exceeding \$500,000.

Returning to Macon, we have the Macon & Brunswick Railroad under contract and being rapidly completed, 185 miles, about 85 miles of which are in running order.

The harbor of Brunswick is the best south of Norfolk, with 28 feet of water on its bar at ebb tide, with a capacity to safely float the navies of the world.

Returning to Atlanta, thence to West Point, Ga., by the Atlantic and West Point road, 87 miles. Gross earnings, \$350,000 per annum. From West Point to Montgomery, 88 miles. Earnings \$350,000 per annum.

Montgomery to Mobile and Pensacola by the Montgomery, Mobile and Pensacola roads, 172 miles; gross earnings exceeding half a million dollars.

This presents the railway connections in Georgia, South Carolina and Florida by the one great trunk line, the Western & Atlantic Railroad from Chattanooga and Atlanta.

The next great trunk line penetrating the cotton belt is the Selma, Rome & Dalton road, completed from Selma, the heart of the cotton region in Alabama, to Rome, 197 miles; thence by the Rome road to Kingston, 20 miles, thence 60 miles to Chattanooga.

This company is rapidly extending its line from Rome to Dalton, Ga., shortening their line 18 miles. This may be called the second great trunk line from Chattanooga, 277 miles in all. This connects at Selma with steamers for Mobile by the Alabama river, navigable at all seasons, and on the west with the Selma and Meridian road, 107 miles, which in turn connects with Vicksburg & Meridian Railroad, to Vicksburg, Miss., 140 miles, penetrating the heart of the cotton region of central Alabama and Mississippi.

The third great trunk line was the Alabama

& Chattanooga, from Chattanooga to Meridian, 276 miles, through the Wills Valley, *via* Elyton and Tuscaloosa. The Wills Valley is particularly rich in coal and iron. The mountains on either side for a distance along the route of 60 miles, are filled with these minerals. In constructing this road cuts were frequently made through iron. In some instances embankments were made of iron ore taken from the excavations. This road then passes through the Black Warrior coal field, embracing from 5,000 to 7,000 square miles, with iron and coal lying side by side.

It is now in process of rapid construction, the work progressing on each end. About fifty miles are already completed. Arrangements are also being perfected for its continuance from Meridian to New Orleans, about 160 miles, making this, *via* Chattanooga and Cincinnati, the shortest line from New Orleans to the Northern railroads, and connecting at New Orleans with the system of Texas roads.

The fourth great line from Chattanooga is that from Montgomery to Decatur, Alabama, about 185 miles, thence, by the Memphis & Charleston road to Chattanooga. The former is under contract in the hands of responsible parties, to be completed within two years. Thus, you have two great trunk lines, penetrating Alabama to the Gulf—one through the heart of the cotton region—the other penetrating the great coal and iron regions of that State.

The fifth great trunk line is that of the Memphis & Charleston Railroad from Chattanooga due west to Memphis, on the banks of the Mississippi, 309 miles, with an income exceeding \$1,500,000 per annum.

In addition to these five trunk lines, there are the Nashville & Chattanooga, 151 miles, and the East Tennessee and Georgia, 112 miles, Chattanooga to Knoxville, making seven grand trunk lines centering at Chattanooga, amounting, in the aggregate, to over 3,500 miles of road in actual operation, besides 500 miles in process of construction.

Colonel Hulbert, after this careful and valuable exposition of the system of Southern railway, closed with the following reflections:

"Chattanooga being the northern center of the great railroad system of the South, and Cincinnati being the center of the Southern line of the great railway system between the Rocky Mountains and the coast—with this proposed Southern road, Cincinnati will command the entire trade of the Gulf of Mexico, almost the entire cotton trade of the South. Time was when cotton was moved mainly by water. That time has passed. The commodity is too valuable. Steamers and sail vessels are too slow. Three-fourths of the cotton crop, since the war, has been moved by rail, although the difficulties in the way are now great, having to ship by roundabout routes. In consequence of this, for three years, the shipment of our cotton crop has been delayed, and our planting interests have suffered. We feel the necessity of a great railway connection with the Northern railway system.

"Chattanooga is nearly on an air line to Pensacola; and from there it is only eighteen hours' run to Havana. With such a grand railroad connection, Cincinnati ought to control the sugar trade of Cuba. [Cheers.] And not only this, but the South American trade immediately south of the Gulf, and especially the coffee trade of Brazil. [Renewed cheers.]

"There is no railroad project on this continent so important to the great interests of the

country at large as this single line. Cincinnati has it in her power, within ten years, to command the trade of the Gulf of Mexico, almost the entire trade of the cotton States and the trade of South America. It rests with you to say whether you will possess yourselves of this privilege or not.

"So far as our being able to aid you, I would say that we are poor. The war ruined us; our railroads were almost broken up, to repair which we have contracted large debts; we are just now getting upon our feet again; we are not able to subscribe largely, unless it is done collectively, and this I will on my return urge upon my railroad friends, and ask them to unite in building this trunk road from Chattanooga to the State line. [Cheers.] Knoxville has been spoken of as a terminus. I think it should be one of the termini. But we ask of you—all our Southern roads having important business relations for you—ask that you do not place a third party between yourselves and us." [Applause.]

THE McMINNVILLE ROUTE.

Dr D. R. Haggard, on being called out by Mr Harrison, said:

"I am not specially directed to represent McMinnville route. My residence is Louisville at the present time, and it is since I have been here that I have learned from the delegation from the county of Cumberland that I was expected to co-operate with them. I have lived nearly all my life in the county of Cumberland, which is upon the line of railroad indicated by the survey made from Danville in the direction of McMinnville. I regard that line of very great importance, and as Danville is so well represented here I must speak in behalf of McMinnville. [Laughter.]

"My distinguished friend alluded to Mr. Guthrie, and intimated that Danville had not been treated exactly right by the President and Directors, who took their line of railroad within four miles of their city to tantalize them with the sound of the whistle four times a day. But, sir, Danville could have had that road had she extended material aid in larger proportion; but I believe Danville is on the line of the contemplated trunk road that is contemplated being built by your city connecting it with the Southern system of roads. I could not willingly, under the circumstances, detain this assembly with the reasons, facts and information that have made me come to the conclusion that Chattanooga was not the point at which this grand trunk railroad should terminate.

"I may say that I am a friend of the system of railroads already in existence in Kentucky. I avow my pride in my native State, and I came here mainly to ascertain what were the purposes of Cincinnati and the nature of the act your State has passed to make some grand connection with the South, in the consummation of which some ten millions of dollars would sooner or later be expended. I further wanted to know whether we would be allowed to contribute anything by becoming stockholders in the grand scheme. I regret that we can not be partners in the construction of this road.

"I will say that Chattanooga, against which I have no prejudices, is, as to latitude and longitude, well adapted to be reached by this great trunk road, but my impression has been, and is that it could not be reached by an air line with any reasonable expenditure of money. Surveys I know have been made in the direction of Knoxville, Tenn., and I know its practicability was doubted when the surveys were submitted to Congress, and the au-

thorities then determined that they would not build that road, notwithstanding it was urged as a military necessity. And there were sufficient reasons why they would not build it, and I do not attribute the rejection of this route to any improper motives on the part of any one, or that its rejection was due in any way to political intrigue of speculators. I believe that it was understood that the cost of construction would be so immense, and the Government was not disposed to spend ten millions of dollars on it, although it was said at the time to be a military necessity. If it could not be built then, because the expense was excessive, it would be equally great and equally impracticable now.

"Since I have been in this city, I have understood that another survey has been made by Mr. Gunn, but I never knew till yesterday that there had been another survey made differing from that originally made to Knoxville. The new route presents some difficulties to me, and I confess I can not readily understand the practicability of the proposed new route. I have traveled over those mountains and have been in those deep valleys, and I was not aware till I reached this city that a railroad was seriously contemplated through that peculiar section of the country. But, practicable or not, I concluded that it would be highly proper on your part, or on the part of those authorized to build the road, to have a complete survey made of all the proposed routes by which Chattanooga might be reached, and at the same time to take into consideration whether that was or not the point of concentration for the entire business of the South. I ask, will it ever be a point of concentration equal to Decatur? From the tendency of the system of railroads centering, as I believe they will, at Decatur, I regard it as of more importance than Chattanooga. If your object is to run a double track to a point in the South that will invite trade east and west of that track, I believe that I am justified in saying that Decatur is more eligible than Chattanooga; and I do not say this from any interested motive, or in any furtherance of the interests of any of my friends or relatives residing at that place.

"The conclusion I have come to is that Decatur is the point to which to extend this Grand Trunk line. The road that it is contemplated to build from Montgomery to Decatur, Alabama, urged by Governor Patton, of Alabama, has already sufficient stock subscribed to build that road from Decatur to Montgomery, and it runs through one of the richest routes that is to be found in the whole region of the South, abounding, among other things, in iron and coal.

"The question is, what will it cost to build a road from Danville to Chattanooga, compared with the cost from Danville to Liberty, and from Liberty to Columbia, Burksville, McMinnville and Tullahoma.

"From McMinnville to Tullahoma, a road is already in operation; also, from the latter to Chattanooga.

"From Tullahoma it is proposed to extend the road to Decatur, almost in an air-line. It is quite practicable, and it can be built at a less cost per mile than most roads. The question for you to determine is which route you will accept. I suppose you will take into consideration the cost of the roads proposed and the point that is indicated to be the terminus of your line.

"If you should say that Chattanooga is the point whose interests will improve more rapidly than at any other point west of it, you may come to the conclusion that Chattanooga

is the point you ought to go to; but if you run that main trunk to Decatur, you can throw off an arm reaching to Chattanooga or Tullahoma, and you have an open road all through to Chattanooga.

"From Danville to the Tennessee State line the road has been surveyed. The heaviest grade is sixty-two feet per mile, and that only for two miles. There is one tunnel 964 feet in length. From the State line to McMinnville there are thirty-three miles of the road under contract, and upward of 200 hands at work, and the balance will be under contract in a few weeks, with a sufficient amount of money under the control of the President to build the road to the Tennessee north State line.

"The cost of the road, when fully completed, from Danville to McMinnville, was estimated at \$32,000 to \$36,000 per mile. It would be well to make a survey of both these lines. It is due to yourselves to do it, and to know the cost of every foot of ground over which you will travel. So far as the country is developed, I think we have a decided advantage as compared with the same distance from here to Cincinnati.

"When you cross the Cumberland river by the other route, you don't cross it at the head of navigation; at other times the head of navigation is two hundred miles below. There are immense shoals there, difficult to pass, except in high water. I ask you, gentlemen, not to determine upon the route to be finally adopted, till you have had both lines surveyed and have that fullness of information which will enable you to come to the best and most satisfactory conclusion on so important a subject."

He was not here with engineers as was Chattanooga, but there would be engineers here in two weeks. The mechanical and mercantile interests were to the west of Chattanooga. Cincinnati did not want to go to New York and Baltimore and Richmond, but it was her duty to lean to the westward with the tide of population and trade.

At the close of the Doctor's remarks he was greeted with enthusiastic applause.

Mr. Gunn, at the close of the Doctor's remarks, said the line to McMinnville was a fair one. It was largely along valleys, with a maximum grade of 80 feet to the mile. The maximum grade of the Knoxville route was 95 feet. There was a considerable number of bridges. The estimated cost of the McMinnville road, in 1853, was \$28,000 per mile, equal to about \$42,000 now. He had no doubt this would be a valuable connection.

CUMBERLAND AND OHIO ROAD.

C. S. Hill, Esq., of Lebanon, was next announced.

He said his county was supposed to be the geographical center of the State. "We are within sixty-seven miles of Louisville, and are proud of that city. I desire to cultivate candor, and were I to say I preferred you to Louisville you would doubt my sincerity. It is not for me to instruct you as to your interest. It would be indelicate, and I shall not attempt it. We are devoted to the interests of Louisville and the ends we advocate are intended for her benefit. We are sorry that you will not take us into your association, and therefore, of course, we must act independently. We have a purpose to accomplish, and we intend to make use of Cincinnati to accomplish that purpose. [Loud laughter]

"At the same time we are perfectly willing that you should use us to a certain extent,

but no further than it serves our interest. We have been whipped, burned, lashed, scalded. We have been hurt in every possible way in which pain can be inflicted, and we do not intend to pass through the same ordeal twice. Cincinnati is now in some respects at a standstill, but we want you to advance. If you do not advance our purposes will be defeated. We intend to build our road, and if millions of money are necessary to effect it, we believe the money can be obtained. I live upon what is called the Indian Trace, afterward established as a national road. Many a troop of fifteen and twenty loaded wagons have I seen pass upon that road, and this, I say, is the natural direction to the South, and you ought not to diverge, except from some strong inducements. You are working not only for your city to-day, but for the future. You feel that you must have fast, straight and cheap roads, and we know you will not hastily open so important a subject, but follow the old proverb of making haste slowly. I make no fling at Lexington or Danville; they are pretty little finished cities, both of them. Both are cities of learning and refinement, and that is about all. Commercially considered—if my candor be pardoned—they are the least important in the world.

If they are of commercial importance, you already possess them, for are they not down on their knees before you, and do you need to expend ten millions to buy them when you already possess them? [Laughter] Whether you are determined to build this road or not, we are determined to have the requisite amount of money to accomplish it, and we intend to furnish the direct trunk road a double track. We will get the money, for we know how to get it, and it will be a short and straight road. In short, it will be the road, and you need not be talking about Lexington, Danville or Knoxville, or any thing of that sort.

"I tell you frankly, we intend to use you, and sell to you, and buy from you; and we intend to use that railroad in competition with the Louisville and Nashville Railroad, and we intend to use you in competition with Louisville. [Cheers and laughter] And we think you have been mighty slow, and this constitutional inhibition has played the deuce with you. [Laughter] This Louisville and Nashville Railroad makes us pay just what they please, and we are bound to submit to it. They run to their own time, and have their own way, and we have to submit; and how much this Louisville and Nashville road has made! I do not think I could make any man believe in the enormous profits of that road, for they are truly fabulous.

"The gentleman has been in this city who owns stock for which he paid \$700, that today is worth \$5,000, paying him six per cent. all the time. Do not you think we can build a road that makes that sort of profits whether you help us or not? [Laughter.]

"In building a road you have to look to its commanding a trade. Look, for example, to the monthly returns of the way and through travel of the Baltimore and Ohio road, how enormous they are. If, gentlemen, you build a road through a country of foxes and wild cats, where there are no people, your revenues will be correspondingly small. It is for this reason I think you ought not to go to Chattanooga. [Laughter.]

"The road I would advocate runs through the richest tier of counties in Kentucky; and it is the natural road, and it pierces a rich tier of counties in Tennessee."

He then alluded specially to the counties of

Spencer, Nelson, Washington, Marion, Taylor, Greene, Barron and Allen, Kentucky that would be traversed, beside the fine agricultural district that would be touched by it in Tennessee. He said if Cincinnati would furnish them two or three millions they would build them a trunk road, and he thought that Cincinnati lawyers might know the legal *finesse* by which it could be procured. He asked that Cincinnati should not be in a great hurry in deciding the question. A competent corps of engineers would be on their road in a very few days. Mr. Hill was heartily applauded when he concluded his remarks.

At half past twelve the committee adjourned to meet at the call of the chairman.

PACIFIC RAILROAD.

THE LAST SPIKE DRIVEN.

THE DREAM OF BENTON AND WHITNEY FULFILLED.

The great event of our times is the completion of the grand continental railway, at noon, May 10th, 1869. It is a triumph of peace, of commerce, of progress. A bond of union between the golden shores of the Pacific and the industries and commerce of the Atlantic States. It is an iron band that will be found stronger than the "three-fold cord of love," to tie together "our ocean washed empire," and will add more to our strength and glory than any other work of peace ever constructed since the formation of the government. The telegraph announced from Promontory Summit, Utah Territory, every stroke of the hammer that sent home the golden spike that clinched the iron bands together, and simultaneous shouts arose from high officials at the rising and setting of the sun. The dispatch in the *Commercial* says:

PROMONTORY SUMMIT, UTAH, May 10.—The long and anxiously looked for event, the connection of the Atlantic seaboard to the golden shores of the Pacific, was finally accomplished at noon to day. The ever memorable ceremony was witnessed by the principal officers of both companies and about two hundred invited guests. Among them were Generals Connor and Thrie, H. C. Nottingham, Superintendent of the Cleveland and Erie, and Governor Stanford, of Arizona. The entire number of employes and guests did not probably exceed one thousand.

After exchanging congratulations, while the laborers of the Union Pacific and Chinamen of the Central were employed in arranging the tracks for the last rail, and before proceeding with this ceremony, the Rev. Dr. Todd offered up a prayer, asking the favor of Heaven upon the enterprise.

This was followed by the speech of Dr. Harkness, of California, in presenting Governor Stanford with the spike of gold. This was replied to by Governor Stanford in a few appropriate remarks.

Governor Stanford, of Arizona, then presented a similar spike to the officers of the Union Pacific Railroad.

The response was made by General Dodge.

Then the two last rails were laid, opposite each other. Wires were so arranged that the City Hall bell at San Francisco was struck at every stroke of the hammer, and the last

stroke discharged cannon connected at San Francisco in electrical circuit. The lines east were also placed in connection, to report every stroke at Omaha, Chicago, New York and Boston.

About 12 o'clock the work of driving the last spike commenced, amid the deafening shouts of the multitude. In less than two minutes the great continental highway from ocean to ocean was an accomplished fact.

At Washington.

WASHINGTON, D. C., May 10.—The completion of the Pacific Railroad to-day, and the transmission of the proceedings at Promontory Point by telegraph, to the principal offices throughout the country, was the subject of much interest and amusement. At the principal office of the Western Union Telegraph Company in this city, the manager, Mr. Finker, adjusted a bell to the instrument in his private office, and notified the various offices that he was ready. New Orleans, thirteen hundred miles distant, instantly responded "ready." New York and a hundred other offices repeated the word "ready." Inquiries from every part of the continent greatly annoyed the Omaha operator, and he shortly responded: "To everybody: Shut up and keep quiet. When the last spike is driven at Promontory Point they will say 'Done.' Don't break the circuit, but watch for the signals of the blows of the hammer."

After some little trouble in the Chicago office, and the closing of a circuit west of Buffalo, the instrument here was adjusted, and at 2:27 P. M., Promontory Point, 2,400 miles from Washington, said to the people congregated in the various Telegraph offices: "Almost ready; hats off; prayer is being offered." A silence for the prayer ensued.

At 2:40 the bell tapped again, and the office at the Point said: "We have got done prayer. The spike is about to be presented." Chicago replied: "We understand; all are ready in the East."

"PROMONTORY POINT.—All ready now; the spike will be driven. The signal will be three dots for the commencement of the blows."

For a moment the instrument was silent; then the hammer of the magnet tapped the ball one—two—three—the signal. Another pause of a few seconds. The lightning came flashing eastward, vibrating over twenty-four hundred miles to Washington, and the blows of the hammer upon the spike were measured instantly in telegraphic accents of the bell here.

At 2:47 P. M., Promontory Point gave the signal, "Done!" and the continent was bound in iron.

"Done,"—and nearly forty millions shout for joy, until the echos reverberate across the ocean, and the "old world" is awake from its slumbers. We regard it as a personal triumph, and so should every individual in this broad land. We feel that we have an inheritance in it; although we do not own a dime's worth of its stock, nor any of its bonds, nor a foot of land along its pathway. The RECORD has done its share towards creating the public opinion, that has resulted in its completion. Fifteen years ago its pages teemed with article after article on the necessity and national importance of a continental railway, and the interest the government had in its construction, and the reasons why it should furnish aid to secure its completion.

These articles were sent weekly to five or six hundred newspapers all over the country, and hundreds of them were copied and scattered broadcast throughout the land by both the daily and weekly press. Through our immediate instrumentality about fifteen State Legislatures passed resolutions recommending Congress to give material aid for its construction, and we wrote the resolution passed by the Cincinnati Convention in 1856, that first made the doctrine a plank in the platform of a National Political Party, while our Brother who was associated with us in the RECORD, succeeded in having a similar resolution incorporated in the Platform of the Republican Party the same year. He also devoted much time when the bill was before Congress, in advocating to the best of his ability its passage. So much for the past. We are not through yet; there is more yet to be done, and we shall not cease our efforts until we have at least three pathways across the continent opening up and developing our internal resources, and carrying our trade from ocean to ocean.

Lansing, St. Johns and Mackinaw Railroad Company.

[From the State Republican, Michigan.]

About six weeks ago, the leading citizens of Gratiot and Isabella counties commenced to discuss the importance of a railroad from the Capital northward through the counties of Ingham, Clinton, Gratiot, and Isabella. Last Thursday the company was organized at St. Johns, and five per cent. stock was paid in on over \$80,000. At the meeting held two weeks previous at the same place, the route was designated as "from Lansing northerly, through or as near as may be deemed practicable by the board of Directors to the villages of Dewitt and St. Johns, in Clinton county, Ithica, Alma and St. Louis in Gratiot county, Salt River and Mt. Pleasant, in Isabella county, to some point on the line of the Flint and Pere Marquette Railroad." At that meeting Hon. O. L. Spaulding and Hon. H. M. Perrine, of St. Johns, were appointed a committee to draw up articles of association to be submitted at an adjourned meeting to be held on the 29th of April. It was also decided that at the adjourned meeting the five per cent. on the \$80,000 required should be paid in, and that the board of Directors should be elected, and the company fully organized.

At the adjourned meeting, Judge Borland of this city in the chair, in the absence of Dr. H. B. Shank, Mayor Cyrus Hewitt was elected Vice-President. Hon. O. L. Spaulding, of St. Johns, as one of the committee appointed at a previous meeting, reported articles of association, leaving blank the name of the company, the time of duration, the amount of capital stock, and the number of shares, and the names of the Directors. After the convention had discussed the name that should be given to the company, and various names had been proposed, on motion, a committee of twelve were appointed to fill up the blanks in the articles of association, of which A. N. Hart, Wm. H. Chapman, and S. D. Bingham were members from this county. After discussion, the committee reported back to the meeting as the name of

the company: "Lansing, St. Johns and Mackinaw Railroad Company," the time of its duration "one hundred years," its capital stock "800,000, to be divided into 16,000 shares of \$50 each." The convention accepted the and adopted report.

A lengthy discussion took place as to the manner in which the Directors should be elected, and the number from each county, in which Hon. Randolph Strickland, Hon. O. L. Spaulding, Judge Chapman, Judge Kent, S. D. Bingham, I. A. Fancher, Luther Smith, James Gargett, Mr. Winton, and others participated, and the convention passed a resolution that three Directors should be given to Ingham county, four to Clifton county, three to Gratiot county, and three to Isabella county, and that the delegations from the several counties should name the men for their own county, and report the same for the action of the convention; a recess of half an hour being taken for that purpose, and for making up the stock.

The delegations from the several counties reported for Directors the names of the following gentlemen, and the report was accepted and adopted:

Ingham County—Charles Borland, S. D. Bingham, A. N. Hart, of Lansing.

Clinton County—George W. Topping, of De Witt, Robert M. Steel, John Hicks, and Charles Kipp, of St. Johns.

Gratiot County—John Jeffery, of Ithaca, James Gargett, of Alma, and John L. Evans, of St. Louis.

Isabella County—George W. Metler, of Salt River, George Bradley and Isaac A. Fancher, of Mt. Pleasant.

Five per cent. stock was reported as paid to Charles Kipp, the receiver appointed at the previous meeting, on over \$80,000 of stock, and the convention adjourned. Immediately after the adjournment of the convention a meeting of the board of Directors was held, all being present except Robert M. Steel, of St. Johns. Robert M. Steel was elected President, S. S. Walker, Treasurer, and O. L. Spaulding, Secretary, all of St. Johns, and I. A. Fancher, of Mt. Pleasant, was elected Vice President, and the board of Directors adjourned to meet at the call of the President.

BLUE RIDGE R. R.

THE attention of Contractors is invited to the work of completing the Blue Ridge Railroad, in South Carolina, from Anderson, South Carolina, to Knoxville, Tennessee—a distance of one hundred and fifty-two miles to build.

The Executive Committee of the Board of Directors is prepared to enter into negotiations with responsible persons, who may desire to undertake the work.

Payments will be made in first mortgage (7) per cent. currency bonds of the Company, secured by the guarantee of the State of South Carolina, for the punctual payment of both principal and interest. The mortgage covers unencumbered property of the Company, which cost three and a quarter millions of dollars in gold, and embraces fifty miles of road complete and in running order.

Detailed Estimates, Plans, Profiles and Specifications, will be ready for inspection by JUNE 1, 1890. Meanwhile, approximate quantities and other information concerning the work may be obtained by application to Col. James P. Low, the Chief Engineer of the Company, or to the undersigned, at Columbia, South Carolina.

R. K. SCOTT,
Chm'n of Executive Committee.

29-4-9-51.

T. F. Randolph,
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BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF FORMS.	PRICES.	SIZE NO. OF FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 256	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without portings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms and also with working plans, if desired.

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MERCER, MORE & CO.,
BUILDERS OF EVERY DESCRIPTION OF

RAILROAD CARS
Cambridge, Ind.

REFERENCES.

W. H. MITH, Pres't, C.&I.C. Railway, Columbus, O.
J. M. RIDENOUR, Pres't, C.&I.J.R.R. College Cor., Ind
J. M. LUNT, Sup't, C.&I.C.R.R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C.H.&D.R.R., Cincinnati,
J. H. WELLER, Ass't Sup't, D.&M.R.R., Dayton, O.
D. McLAREN, Gen'l Sup't, A.&G.W.R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C.&I.J.R.R., Hamilton
C. W. SMITH, Gen. Ft. Agt. C. & I.C. R.R., Indiana
[Aug. 2, 1866]

THE
STEAM SYPHON PUMP
IS THE

Most Simple, Effective and Durable Device for
Raising Water by steam, yet discovered.

It is an independent LIFT AND FORCE PUMP, with-
out piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP.
WITH THE

STEAM SYPHON WATER-STATION
a locomotive can raise water, with its own steam, to fill
its tender in the same time as from an ordinary tank;
thus dispensing with tanks, pumping ma-
chinery, and men to attend them.

IT IS AN EFFICIENT
FIRE-ENGINE,

wherever steam power is used; as at Machine Shops
Shops, Elevators, &c.,

AND BY FAR,
THE BEST BILGE PUMP,
for Steam Vessels, in use

For Circulars and other information, address,
STEAM SYPHON COMPANY,
48 Day Street,
NEW YORK.

VERY CHOICE
Oil Lands
IN
Kentucky & Tennessee,
FOR SALE BY

T. WRIGHTSON,
167 Walnut Street,
CINCINNATI

THROUGH
—FROM—
CINCINNATI TO NEW YORK
WITHOUT CHANGE OF
COACHES!
—VIA—

Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G.W.
Railway, on Saturday Morning, by the 6:00 a.m. Lightning
Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next
day, Sunday

2 Through Lightning Express Trains for New York,
Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.					
Leave	Cincinnati.....	6.15am.....	7.10pm		
"	Dayton.....	8.35 ".....	9.30 "		
Arrive	West Salem.....	1.50pm.....	4.53am		
"	Leavittsburg.....	4.55 ".....	7.35 "		
"	Meadville.....	7.35 ".....	11.10 "		
"	Susquehanna.....	7.48am.....	11.29pm		
"	Paterson.....	2.25pm.....	6.03am		
"	New York.....	3.15 ".....	7.00 "		
"	Boston.....	5.45am.....	4.45pm		

Sleeping Coaches on Night Trains the entire distance
between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday
night instead of Saturday night. All other
Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
At Mansfield with Pitts. Ft. Wayne
and Chicago Railroad.

THIS IS THE ONLY ROUTE
TO THE

OIL REGIONS OF PENNSYLVANIA
Passengers to the Eastern Cities will find the
Atlantic & Great Western R'y
A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely
new, of the most modern, substantial, and approved de-
scription, unequaled by any Railway on this continent.

SLEEPING COACHES
Provided for all Night Trains, and Smoking Cars for all
Trains.

Ample time is allowed, at all hours,
for meals.

No effort will be spared by the Company to render a trip
over the Road pleasant and comfortable to the Passenger.

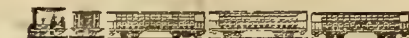
CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE
CHECKS,

Apply in Cincinnati at New Depot of Cincinnati, Hamilton
and Dayton Railway; or at northeast corner of Broadway
and Front streets, and at No. 80 Fourth street, nearly op-
posite Post Office. Also at any of the principal Railroad
and Steamboat Offices, in the West and South-west.

W. B. SHATTUC, Gen'l Ticket Agt. L. D. BUCKER, Supt.

CENTRAL RAILROAD
—OF—
NEW-JERSEY.



On and after Monday, May 21, 1866, three Express
Trains will leave New York daily (Sundays excepted) via
Central Railway of New Jersey, and Allentown, leaving
Pier 15, foot of Liberty street, North River, at 7:00 and
9:00 a. m. and 1:00 p. m. On Sundays, one Express Train
at 8:00 p. m.

Passengers by this route save 60 to 130 miles, and Two
Hours' Time over other Lines, with but one change of
cars to Chicago or Cincinnati, and but two to St. Louis.
Passengers from New York by Sound Boats or by Rail in the
morning, will have time for Breakfast before leaving the
City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives
at Harrisburg 2 p. m., Pittsburg 12 night

9:00 a. m.—MORNING EXPRESS, for the West. This
train leaves New York Two Hours later than other Lines,
and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with
Lehigh Valley Railway to Mauch Chunk; at Reading with
Philadelphia & Reading Railway for Pottsville, arrives at
Harrisburg at 8:30 p. m. Without change of cars from
New York to Harrisburg.

8:00 p. m.—EVENING EXPRESS, for the West with
but one change to Cincinnati or Chicago, and but two to
St. Louis. This train leaves New York Two Hours later
than other Lines, and arrives at principal places West
at same time.

TRAINS TO NEW YORK.
(Leave Harrisburg.)

9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives
at New York at 6:00 a. m. next day.

3:00 a. m.—EXPRESS TRAIN, from the West, leaving
Pittsburg at 4:30 p. m.; passes Harrisburg at 3:00 a. m.;
Reading at 4:49 a. m.; Allentown at 6:00 a. m.; Easton at
7:09 a. m. Through cars from Pittsburg to New York.

9:05 a. m.—FAST LINE, from the West, leaving Pitts-
burg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Read-
ing at 10:52 a. m.; Allentown at 12:02 p. m.; Easton at
1:10 p. m. Through cars from Pittsburg to New York.

7:25 a. m.—WAY TRAIN, from Harrisburg, passing
Reading at 10:40 a. m.; Allentown 12:30 p. m.; Easton at
1:35 p. m. Through cars from Harrisburg to New York.
Arrives in New York at 5:30 p. m.

2:10 p. m.—FAST MAIL, from the West, leaving Pitts-
burg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Read-
ing at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at
7:20 p. m. Through cars from Harrisburg to New York
Arrives in New York at 10:45 p. m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO
ST. LOUIS & CHICAGO.

Monday June 24.

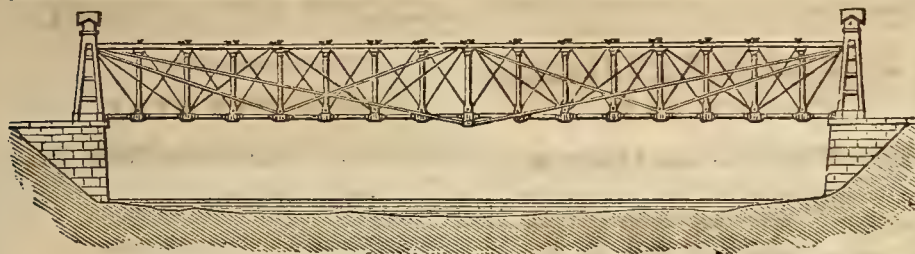
INDIANAPOLIS & CINCINNATI
RAILROAD.

Three Through Trains Daily.
Leave. Arrive
St. Louis & Chicago Ex..... 7.00 A. M. 9.10 A. M.
Springfield & St. Joseph Ex..... 12.00 P. M. 4.30 P. M.
St. Louis & Chicago Ex..... 4.55 P. M. 12.15 A. M.
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.
Leave. Arrive.
Lawrenceburg & Brookville Ac-
commodation..... 5.15 P. M. 5.05 A. M.
Harrison Accommodation..... 10.10 A. M. 2.25 P. M.

Through Tickets can be obtained at the Burnet House-
Spencer House and Gibson House Offices; also at the
Depot. The Passenger Depot of the Indianapolis & Cin-
cinnati Railroad is within a few squares of all the pri-
cipal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD Gen'l Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1392.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail and work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunities of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings; every description of Copper, Sheet Iron and Boiler Work; and every article appertaining to the repair and maintenance of Locomotive Engines.

KNOX & SHAIN,
ENGINEERING & TELEGRAPHIC
INSTRUMENT MAKERS

Philadelphia, Pa.

W. M. F. HEWSON,
STOCK BROKER,

91 WEST THIRD STREET, CINCINNATI.

Buys and sells Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collections.

AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

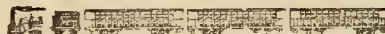
Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
S. E. Cor Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent,
myll Pittsburg, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

WITH

Productive Wells all

around them.

FOR SALE BY

T. WRIGHTSON

167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

—IN—

Railroad, Car and Machine Shop

SUPPLIES,

—AND—

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
350 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST.

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and best material, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight. All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.
Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly. Sent for the celebrated Wheels, either single or double plate with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner the shortest notice, and on the most reasonable terms.

PASSENGERS

Purchasing Tickets via

Baltimore & Ohio R.R.

-TO-

BALTIMORE,

PHILADELPHIA,

NEW YORK, and
BOSTON,

HAVE THE PRIVILEGE OF GOING TO

WASHINGTONFare to Washington City same as to
Baltimore.J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
N. O. W. BROWN, General Passenger Agent.

} Dec. '67.

Cincinnati, Hamilton & Dayton Railroad

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit..	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail..	7 00 A. M.	5 25 P. M.
Richmond & Chicago..	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond..	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada..	6 00 P. M.	10 30 A. M.
Hamilton Accommodation..		6 45 A. M.
Richmond & Chicago..	7 00 P. M.	9 20 A. M.
Hamilton Accommodation..	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at head office, south-east corner of Broadway and Front; B. R. et House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.**JANUARY 5th, 1868.***Cincinnati to St. Louis Without
Change of Cars.***Ohio & Mississippi Railroad,**For St. Louis, Cairo, Louisville, Evansville, St. Joseph
Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois
Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave	12 30 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave	5 30 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cinc'ti,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine street, Corner Front and Broadway; and at Depot, Foot Mill Street.

O. E. FOLLET Gen. Passenger Agent
J. W. CNLOGUE,
General Superintendent

Best Route to St. Louis and Chicago

**INDIANAPOLIS,
CINCINNATI
—AND—
LAFAYETTE RAILROAD**

Great Through Passenger Route from CINCINNATI to

**ST. LOUIS,
CAIRO,
CHICAGO,**Memphis, New Orleans, Springfield, Quincy
Keokuk, St. Joseph, Des Moines, Omaha
And all Rail and River Towns and Cities in the West,
North west and South-west.**5 THROUGH TRAINS DAILY,**
(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express..	7.00 am	10.50 pm
Indianapolis and Cairo Express.....	6.30 am	2.30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago.

Elegant Sleeping Cars on all night trains.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.10 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.10 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Third and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and situated in a few squares of the Post-office and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.

A. E. CLARK, General Ticket Agent.

MOSELEY'S WROUGHT IRON ARCH**BRIDGES,**

AND

CORRUGATED IRON ROOFS

ARCHED AND FLAT.



CORRUGATED SHEETS, OF ALL SIZES. Constantly on hand, painted, and ready for shipment, with instructions for applying them.

MOSELEY & CO.
Boston, Mass.**EDWIN J. HORNER,**

Successor to

McDANIEL & HORNER,



Locomotive and Railroad

CAR SPRING MANUFACTURER,

Wilmington, Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn

JOHN A. WRIGHT, Sup't.

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works
June 9**THE SCHENECTADY
LOCOMOTIVE WORKS,**

SCHENECTADY, N. Y.,

Continued to receive orders and to furnish with promptness the best and latest improved

**COAL OR WOOD BURNING
LOCOMOTIVE ENGINES**

AND OTHER

Railroad Machinery, Tires, etc.

—AND ALSO TO—

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding the work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.**PASCAL IRON WORKS.**

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1 1/4 to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from 1/2 inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas, Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—from 1 1/4 to 24 inches in diameter, and branches for same. &c.,
Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. F. M. TASKER
BY G. MORRIS.**Philadelphia, Wilmington & Baltimore
RAILROAD!!****FOUR PASSENGER TRAINS DAILY**

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. (Express); 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West, 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS.—Leave Philadelphia for Baltimore at 7.30 A. M., and 11.00 P. M. Leave at 8.25 P. M. for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD,
T. WRIGHTSON. } Editors

CINCINNATI:
THURSDAY, MAY 20, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 1 00
" " per month.....	3 00
" " six months.....	12 00
" " per annum.....	20 00
" column, single insertion.....	5 00
" " per month.....	10 00
" " six months.....	40 00
" " per annum.....	80 00
" page, single insertion.....	75 00
" " per month.....	25 00
" " six months.....	110 00
" " per annum.....	200 00

Cards not exceeding four lines, \$5.00 per annum.

WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

ERIE, AND ATLANTIC & GREAT WESTERN.
Morning Express leaves 6:00 A. M.; arrives in New York 3:15 P. M., next day.
Fast Express leaves 9:15 P. M.; arrives in New York 7:00 A. M. second morning.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	3:15 P. M.
Fast Line.....	4:00 P. M.	10:00 P. M.
Lightning Express.....	10:00 P. M.	6:00 P. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City	6:45 A. M.	9:50 P. M.
Fast Line.....	10:35 P. M.	5:20 A. M.
Through Night Express.....	3:40 P. M.	10:15 A. M.
Hillsboro Accommodation.....	5:30 P. M.	7:55 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.).....	6:00 A. M.	5:20 P. M.
do do.....	9:15 P. M.	6:00 A. M.
Toledo, Detroit & Canada.....	6:15 A. M.	10:25 P. M.
do do.....	7:00 P. M.	7:25 A. M.
Lima, Ft. Wayne & Chicago.....	6:15 A. M.	10:25 P. M.
do do.....	2:30 P. M.	6:40 P. M.
do do.....	7:00 P. M.	7:25 A. M.
Sandusky, Cleveland & Buffalo.....	6:15 A. M.	6:40 P. M.
do do.....	7:00 P. M.	10:20 A. M.
Connersville & Indianapolis.....	6:15 A. M.	10:25 P. M.
do do.....	2:30 P. M.	4:15 P. M.
Connersville & Newcastle.....	6:00 P. M.	10:20 A. M.
Hamilton, Eaton & Richmond.....	6:15 A. M.	10:25 P. M.
do do.....	5:00 P. M.	10:26 A. M.
Hamilton Accommodation.....	9:30 A. M.	8:05 A. M.
do do.....	6:00 P. M.	6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

Connersville, Rushville and Indianapolis Mail.....	6:15 A. M.	10:20 P. M.
St. Louis and Indianapolis Exp.....	2:30 P. M.	4:15 P. M.
Cambridge City and Newcastle.....	6:15 A. M.	10:20 A. M.
Cambridge City and Newcastle.....	6:00 P. M.	10:25 P. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	6:00 A. M.
New York Express.....	10:00 P. M.	5:00 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	8:45 A. M.
Springfield Express.....	3:40 P. M.	3:48 P. M.
St. Louis Lightning Express.....	11:00 P. M.	1:15 A. M.
Lawrenceburg Accommodation.....	10:00 A. M.	2:35 P. M.
do do.....	4:45 P. M.	8:10 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	3:48 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:00 A. M.
Harrison Accommodation.....	6:05 P. M.	6:42 A. M.
Chicago and Cambridge City.....	6:30 P. M.	10:15 P. M.

OHIO AND MISSISSIPPI.

For St. Louis, Cairo.....	7:00 A. M.	6:00 A. M.
Evansville and Louisville.....	5:10 P. M.	9:00 P. M.
do do.....	10:15 P. M.	11:5 P. M.

Only Sunday trains are 5:10 P. M., leaving, and 6 A. M. arriving.

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

The Southern Railroad.

In regard to what should be the terminus of the Southern Road, and what were the great objects to be accomplished, we have expressed ourselves freely in past articles; but, since the arrival of numerous Southern Delegations, and the strife for the Southern terminus has become so active, it may be interesting to state the case again, in the light of cost and geography:

1st. The People of Cincinnati want a South line of railroad. To meet this want, two points are proposed; Chattanooga and Knoxville. The direct South line passes between these two points, and hence, it will not be a material variance to go to either of them.

2d. But, Chattanooga is 60 miles farther South, and here arises the question of cost. Will Cincinnati be committed by establishing the terminus to make the road to that point? If the Road is to be between those two points, and Cincinnati is herself to make the road, which the new law requires, how can she help making the whole road? In that case, why should she make 60 miles more road than is necessary? But, it is said, that the city will buy the Kentucky Central, and in the same way will buy some road in Tennessee, to be made to the State Line. Suppose this done, why buy 60 miles more than is necessary? If the city of Cincinnati is to buy, or to make a railroad from Covington to Chattanooga, it will require all of ten millions and more. Hence, we think it safer, simply on the ground of cost, to make Knoxville the Southern terminus. But, we confess, that Chattanooga is on the straight line from Cincinnati to Pensacola, which is our Cincinnati and Mackinaw Line, completed.

3d. But, there are other considerations, mentioned in our former article, which makes Knoxville as the proper terminus in the South. It is absolutely necessary, if Cincinnati would derive any great benefit from her ten millions of dollars, that she should have a road connecting her with the South Atlantic ports. This she will have ultimately with Norfolk; by the Ohio and Chesapeake Road; but, where will be the connection with Wilmington (N. C.), Charleston (S. C.), Savannah (Ga.), unless her TRUNK LINE is so made, as to connect with the Systems of Railroad in North and South Carolina? Now, the North Carolina System of Railroads is to come down the French Broad to Knoxville; and the South Carolina System is to be continued through the Rabun Gap (Ga.), by the Little Tennessee to Knoxville. It is true, that these roads may be connected with a Trunk Line to Chattanooga, but only so, by extending branches farther than is necessary, and by Cincinnati making a longer Trunk line than is necessary.

4th. But, there is another point of material importance. Supposing that Chattanooga is

selected, is it not almost certain that good engineering will require the use of two-thirds the Chattanooga and Knoxville Road at any rate? If you take up the map of Tennessee, you will find that the railroad from Chattanooga to Knoxville goes for two-thirds of the way, almost on the direct line to Cincinnati, being but little east of north. It is not probable, that a good engineer will find any better road from Cincinnati to Chattanooga, than to go directly to near Williamsburg, Ky., crossing the Cumberland Mountains, on a direct South line to Jacksborough, and thence to Knoxville and Chattanooga, and not far from the exact South line from Cincinnati. It is very well ascertained, that the Jacksborough route crosses in the most practicable gap in the Cumberland mountains, and is on the whole the easiest made. We think that this modification of the Knoxville route would probably be better than either one of those proposed. If the Chattanooga terminus be selected, we feel confident that this will be the result of it; the present Knoxville and Chattanooga route will be used for 110 miles of the distance. If this be true, and the map shows that it is, we can not see why Cincinnati should make, or what is the same thing, buy, or become responsible for 110 miles more of road than is necessary.

Some people seem to think that it is no matter whether we have a direct railroad to the Southern Atlantic or not; that it is only necessary to have the trade from the South-West! If this be the case, the ten millions Cincinnati is about to expend, will be as completely thrown away, as if it were put in the ocean. The straight line to Memphis will be made in a few days via Louisville, and the Bridge over the Ohio will soon complete it. Memphis is the center of the South-west. To Nashville we have already two lines, one by rail and one by river. Whatever is wanting to the South western Lines will soon be made by private parties. The object of Cincinnati is a very different thing from this. The object is to make a DIRECT TRUNK LINE, which while it admits of all collateral branches necessary to connect Tennessee and Alabama with the main line, nevertheless, looks to Georgia, South and North Carolina, as its real ultimatum. Anything short of that will be a failure; and a fatal failure for Cincinnati. Whether Cincinnati shall adopt Chattanooga or Knoxville as the legal terminus, may not in itself be very important; involving only more or less expense. But, it is all important, that this city should not mistake its own purpose. If it does, the immense capital to be employed, and secured and partly paid for by a tax on the people, will be completely lost. Behind the State Line of Tennessee, and beyond any special point, that may be named, lies this immense region, which furnishes a great and peculiar market for the products of the Ohio Valley, viz.: the great cotton States of Georgia, North and South Carolina. These States

comprise a space of 120,000 square miles; and in East Tennessee, South-west Virginia, and East Kentucky, are 80,000 other square miles; and thus there are 200,000 square miles of territory, and 3,000,000 of people, who are to be brought by means of the Southern Road to trade with Cincinnati; who have heretofore traded with it only through other cities, if it traded at all. A new commerce, a new market, a new growth in wealth, is to be created, and Cincinnati is to take a new start in growth, enterprise and prosperity. But, this start will not be taken, if the capital and energy which are required for it are thrown away on a South-western Road, which comes of course, without any need of advance on the part of this city. The plan of 1836, still remains the best and wisest; to make a Trunk Line Railroad, which shall connect with the Blue Ridge Railroad of South Carolina through the Rabun Gap, and thus complete the line from Cincinnati to Charleston, as well as connect the city with the whole system of Southern railroads.

SOUTHERN RAILROAD MEETING

Board of Trade Rooms.

Knoxville and Charleston Delegations.

The cities of Knoxville and Charleston being wide awake to the very great importance of a railroad connection direct with the great North-west, *via* Cincinnati, have left undone nothing that could have been done to secure the result. This has been the burthen of their hope by day and dream by night for so long, that were the feeling not fully reciprocated by Cincinnati, it would indeed be a sad case of misplaced affection—unrequited love. We should have been glad to have published the remarks of all the delegates, but want of space will prevent. We copy our report of speeches from the *Commercial*:

Colonel Terry, engineer of the Knoxville and Kentucky road, then read a sketch of the route to Knoxville, from which we take the following facts:

The advantages of the direct connection with Chattanooga have been fully presented to the people of Cincinnati, and I will now endeavor to show the most available line from Cincinnati to that important railroad center.

The line proposed for that purpose by the citizens of Chattanooga, and deemed by them the most direct, follows, for seventy seven miles, the valley of Walden's Ridge, which, as represented by Colonel Gaw, the engineer of that line, with whom I fully agree on this subject, affords extraordinary natural facilities for railroad construction.

The general direction of this valley is nearly north-east, and very direct. On arriving at Emery Gap, this route to Chattanooga commences the ascent of Cumberland Mountain, and according to the report of Colonel W. H. Gunn, of Lexington, Kentucky, does not emerge from this rugged mountain work until it reaches the Cumberland river, ninety-

six miles from Emery Gap. Thence the line runs through Somerset to Danville and Nicholasville, and thence, by a line of railroad already constructed to Cincinnati, making a total distance of 361 miles, of which but 112 miles are now running, leaving 239 miles to be constructed, of which ten miles were nearly graded before the war.

I now propose to indicate the line which, in my opinion, gives your city the most direct route to Chattanooga, and that which is by far the easiest of construction, as it diminishes largely the amount of mountain work, without increase of distance. This line follows Colonel Gaw's survey to Emery Gap, but instead of commencing the ascent of Cumberland Mountain at that point, follows the same valley for thirty-five miles beyond Emery Gap, until it strikes the line of the Knoxville & Kentucky Railroad, near Coal Creek Station. Of this thirty-five miles no railroad survey has been made; but as there are no streams of any size to cross, and no ridges, it would be no unfair presumption to assume that the cost of this part of the line would not exceed mile for mile that of Colonel Gaw's line from Chattanooga to Emery Gap.

From Coal Creek the route follows the line of the Knoxville & Kentucky Railroad to the end of its grade, fifteen miles beyond, thence passing through Elk Gap descends the side of Pine Mountain, with only three miles of very heavy work to the valley of the Elk Fork of Cumberland, four miles short of which point the mountain portion of the line terminates, its total length being but thirty miles, and that by the easiest and most direct route, reaching the State line of Tennessee, in Clear Fork Valley, near the town of Boston.

From Boston this line follows the valley of Clear Fork to Williamsburg, thence by way of London, Richmond and Winchester, to Paris, as indicated in the able article of Mr. Mansfield, in the *RAILROAD RECORD* of the 8th inst.

The distance from the junction near Coal Creek to the State line of Tennessee is thirty-four miles, upon fifteen miles of which the Knoxville and Kentucky Railroad will lay the track within ninety days, the grading being already completed. From the State line to London, on the line surveyed by the engineers of the Louisville & Nashville Railroad, is forty-five miles; from London to Paris, according to the statement of the Hon. Mr. Burnham, of Richmond, Kentucky, is eighty-four miles. The total distance from Cincinnati to Chattanooga by this route is, therefore, three hundred and fifty-five miles, or six miles less than that by way of Nicholasville and Chitwood. Of this line, ninety-five miles, viz.: eighty in Kentucky and fifteen in Tennessee—may be accounted completed, leaving two hundred and sixty miles yet to be constructed, twenty-one more than on the Nicholasville line, if we consider the ten miles between Nicholasville and the Kentucky River as completed.

We do not think it an unfair assumption that the line from Paris to London will cost no more per mile than that of Colonel Gunn's line over Cumberland Mountain, viz.: \$40,000. From London to the State line the average cost of the line, according to the engineers of the Louisville & Nashville Railroad, will not exceed \$30,000. From the State line to the present terminus of the grade of the Knoxville & Kentucky Railroad, the cost of the work, which has been finally located and actually let to contract, although the work has not yet been commenced, will not exceed \$40,000 per mile. All this sums up as follows:

COST OF CONSTRUCTION.

From Chattanooga to Knoxville & Kentucky Railroad, 112 miles, at \$23,500.....	\$2,632,000
From Knoxville & Kentucky Railroad State line, 19 miles, at \$40,000.....	760,000
From State line to London, 45 m's, at \$30,000.....	1,350,000
From London to Paris, 84 miles, at \$40,000.....	3,360,000

260 miles..... \$8,102,000

The cost of construction of the 249 miles from Nicholasville to Chattanooga, according to the reports of Colonel Gunn and Colonel Gaw, adding \$10,000 per mile for track on Colonel Gaw's line, is, by their statements.....\$8,713,000

Excess of cost of Chitwood line... \$611,000

This estimate, if correct, and I can myself vouch for the correctness of all except that portion of the route from London to Paris, for which there is allowed an amount possibly much heavier than an actual survey would prove to be necessary, shows that the city of Cincinnati can save in its construction of a railroad to Chattanooga by this route, over \$600,000 on the road yet to be built.

It can, in addition to this, save the amount already expended upon the Nicholasville route, between Paris and Danville. But as a partial offset to this we can count that part of the Knoxville & Kentucky Railroad between the junction and the end of its grade, which will not exceed \$645,000 completed. According to the pamphlet of Mr. Goodin, the Kentucky Central Railroad is valued at little over \$33,500 per mile, and at this valuation the nineteen miles between Lexington and Paris will cost this city..... \$636,500

The Lexington and Danville road is valued at..... 450,000

Excess of cost of Chitwood over Paris and Richmond line, previously shown..... 611,000

\$1,697,500

Deduct cost of 15 miles of Knoxville & Kentucky road..... 645,000

Showing a total saving by the Paris and London route..... \$1,052,500

That portion of this line in the State of Tennessee and as far north as London, Kentucky, has been located with maximum grades of sixty-six feet to the mile, and a minimum radius of 1,000 feet, except the valley line from Emery Gap to Coal Creek, and here, as the formation is exactly similar to that part of the line further down the valley, it is a fair assumption that the grades and curvature would not exceed those of the mountain line. On the section from London to Paris, it is not at all probable that the grades and curves which have carried this line over Cumberland Mountain will prove inadequate to effect that object on the line described by the Hon. Mr. Burnham. I think, therefore, that it is no unfair assumption to conclude that instead of adopting the heavy grades and tremendous bridging of Mr. Gunn's route, you can build a road to Chattanooga on a route no longer than that proposed by him, and at a large reduction on his estimates.

This line also passes within thirty miles of Knoxville, Tennessee, the connection with

which from the proposed junction is already completed, and thus secures to you without the expenditure of another dollar that Knoxville connection, which, on the Chitwood line, it would cost at least \$1,250,000 to make only attainable. Even with that expenditure the latter connection could only be made by the adoption of much heavier grades than those upon any portion of the line which I have already laid before you, as to reach Chitwood we are obliged to cross the ridges of Cumberland Mountain, instead of running with them as on the true line *via* Elk Gap. The distance from the present terminus of our grade to Chitwood's, instead of being but nine or ten miles, as I am informed, is the general impression among your citizens, is twenty-five miles by the shortest attainable route, and includes several heavy tunnels, one of 3,000 feet in length, with two others from 1,500 to 2,000 feet long, a large amount of very heavy side hill work on the treacherous slopes of the Cumberland Mountain, and all this with much heavier grades than on the shorter and cheaper route. I will now lay before you a final summary of the amount saved in railroad construction by taking the Paris and Richmond route as I have indicated:

Saving on Chattanooga connection \$1,050,000
 Saving on Knoxville connection... 1,250,000
 Making the amount saved on both connections..... 2,300,000

In conclusion I will state that if Cincinnati preferred not to purchase the fifteen miles of the Knoxville & Kentucky Railroad beyond the junction, an equitable arrangement can be easily effected for its use by both companies, or for a lease to Cincinnati, and in that case we can add the \$645,000 allowed for the purchase of this section to the amount stated above, making a saving of \$2,945,000 in the roads to be built to effect both connections. If, however, this city should decide upon such purchase, I know that the gentlemen associated with me in the duty of presenting to you the claims of this route, will join with me in the assurance that every dollar received for this part of our great trunk line will be devoted to the completion of that portion of the line lying between Knoxville and the State line of North Carolina, and will insure the completion of the Blue Ridge Railroad.

It will thus be seen that by adopting the Knoxville & Kentucky Railroad as your southern terminus, you secure to yourselves not only the direct connection with the railroad center at Knoxville, which commands the whole of Southwest Virginia, the entire States of North Carolina, South Carolina, Georgia and Southern and Central Alabama, but also with that at Chattanooga, which commands Middle Tennessee, Northern Alabama and Mississippi, as well as the shortest through route to New Orleans. In the event of your completing the Knoxville connections only at present, you have a route to Dalton, Georgia, the true key to the railroad system of Georgia and Alabama, on a line fifteen miles shorter than that *via* Chitwood and Chattanooga, and only twenty-five miles further to Chattanooga than by Colonel Gunn's line.

If you find that the railroad connection thus offered you *via* Knoxville does not answer your purpose, you still have the opportunity to diverge from the Knoxville and Kentucky Railroad at Coal Creek, and complete the shortest and cheapest connection with Chattanooga.

Line to connect Paris, Kentucky, with Knoxville & Kentucky Railroad.

	Miles.	Approx. cost per mile.	Cost.
Paris to London.	84	\$40,000	\$3,360,000
London to State line	45	30,000	1,350,000
State line to K. & K. R. R.	19	40,000	760,000
Distance to be built.....	148	Total cost.	\$5,470,000
Line to connect Nicholasville with Knoxville and Kentucky Railroad:			
Nicholasville to State line, 113 miles			\$4,533,000
State line to Chitwood, 25 miles...			1,250,000
			\$5,783,000

DISTANCE.	Miles.
Cincinnati to Paris.....	80
Paris to London, per Mr. Burnham's route.....	84 164
London to Knoxville.....	110 274
Knoxville to Dalton, per E. T. & G. R. R.....	110 384
Knoxville to Chattanooga, per E. T. & G. R. R.....	112 386
Cincinnati to Knoxville, via Chitwood line.....	296
Cincinnati to Chattanooga via Paris and Elk Gap.....	355
On air-line from Coal Creek.....	355

ADRIAN TERRY,
 Chief Engineer K. & K. R. R.

Col. James B. Low, Chief Engineer of the Blue Ridge Railroad Company, who next addressed the meeting, spoke as follows:

I shall be very brief in the remarks which I propose to make on the subject now under consideration, that of the great Southern Railroad from Cincinnati to the cotton country, and the South Atlantic and Gulf ports.

When we look back upon the conventions, mass meetings, the traveling to and fro of committees, the voluminous reports, the resolutions adopted, the newspaper articles and communications produced in the interest of this work, we must, sir, feel that if talking or writing could build the Southern Railroad, it would long ago have been completed. We must conclude, that what is required is more work and fewer words.

After all that has been said and written, it seems a waste of time and almost an insult to your intelligence to enlarge upon the advantages, the inestimable advantages to both sections of the country, of a direct railroad connection between Cincinnati and Charleston. Allow me, therefore, to ask your attention for a moment to what has been done toward the accomplishment of the object.

The State of South Carolina, and the city of Charleston, in response to this urgent need, and believing that their desire for this closer commercial connection was fully reciprocated in this city, have expended on the Blue Ridge Railroad, between Anderson, South Carolina, and Knoxville, Tennessee, three and a quarter millions of dollars, and the State and citizens of Tennessee have expended between Knoxville and Anderson, in addition, eight hundred thousand dollars in bonds, and between Knoxville and Wheeler's Gap, on the line between Knoxville and Cincinnati, two millions five hundred thousand dollars, in bonds. Notwithstanding the wide spread discouragement and poverty which resulted from the war, the first public work and great enterprise to which South Carolina put her hand after the close of hostilities, was this railroad, and her people have shown their in-

terest in it to be undiminished by the pledging of the faith and credit of the State for \$4,000,000 to be expended in carrying on the work. South Carolina has not in any contracted spirit limited the expenditures of her means within her own State lines, but her money has been, and is to be freely spent in the construction of the road in either or all of three other States.

The practical results accomplished hitherto are as follows: In South Carolina thirty-two and a half miles of first class road are in running order from Anderson to Walhalla. In Tennessee sixteen miles are in running order, from Knoxville to Maryville, and on the Knoxville and Kentucky Railroad, thirty-one miles of rails, are laid from Knoxville toward the Kentucky State line, and, as I am informed by the engineer, Colonel Terry, fourteen miles more graded and ready for the iron, which has been secured. In Kentucky, one hundred and twelve miles from Cincinnati to Nicholasville have been built. The people at the southern end of the route may, therefore, say that their faith has not been without works, for they can show ninety-three miles of completed road, in South Carolina and Tennessee, as the result of their labors and sacrifices. And this is not all: In the mountain region of South Carolina and Georgia a large amount of work of the heaviest character has been done. The long tunnel of 5,800 feet has been driven to within 1,500 feet of completion, the other tunnels have been commenced; a great part of the masonry and of the heavy grading has been done. I have thus been particular in stating what has been accomplished by the people of South Carolina and Tennessee in spite of many discouragements and difficulties, that their intense interest in the successful completion of the work may appear.

Now, sir, in response to commercial necessities equally pressing upon the two sections of the country, we have attacked the mountain barrier which separates us from you; we have brought the work to such a state of forwardness and provided such an amount of means as insures the passage of that great natural obstacle to our mutual desires, and the means now provided by South Carolina will carry the road far down the valley of the Little Tennessee, toward Knoxville, and are here to ask, not that a portion of the ten millions of dollars which you are about to expend shall be contributed toward the completion of our Blue Ridge road toward Knoxville, (although we should like such assistance, if permitted by your constitution and laws,) but we simply ask that you will not, in fixing the terminus of your Southern road, forget Knoxville and Charleston, and the interests vital to both, which should unite us indissolubly. We are of the opinion that if you so construe your law as to fix more than one objective point, Knoxville should be one; and if you can fix but one terminus, that Knoxville, and no other place, should be that point. There are three main advantages offered to Cincinnati by a Southern Railroad communication.

1. The extension of the area to which she may supply her manufactured articles, the grain and provisions, for which she is a great market, and over which she may distribute goods.

2. A connection with South Atlantic ports, through which she may with advantage export and import.

3. A connection with gulf ports for West India trade.

I do not consider these points of *equal* value and I state them in what seems to be the

order of their importance. However, it is my judgment that a terminus and route for your road should be selected which will as nearly as possible enable you to realize all these advantages in the *shortest possible time*, at the *least expense*. Should you pass Knoxville, neglecting a connection there, you abandon that whole region, of which that city is the center, and of the value of whose trade others are better able to speak to you than myself. You also lose the trade of the rich valleys of the mountain region of Tennessee, North Carolina, Georgia, and the whole of South Carolina.

You also lose the advantage of the connection by the Blue Ridge Railroad with Charleston, the shortest route by which you can reach a South Atlantic port—for the distance from Cincinnati to Charleston via Nicholasville, Wheeler's Gap and Knoxville, is 706 miles, and via Paris, Mount Vernon, London, and the Knoxville and Kentucky Railroad, 684 miles; but if you go to Charleston via Chattanooga, by the line which leaves Knoxville to the east, the distance is 807 miles—a loss, as compared with the Knoxville line, of either 101 miles, or 123 miles, according to the selections made of the route between Knoxville and Paris. As to Savannah the distance is also fifty miles in favor of the line by Knoxville. And as to your connection with a Gulf port you gain but fifteen miles by making Chattanooga, instead of Knoxville, your objective point.

To sum up the result of a selection of Chattanooga instead of Knoxville, (supposing you fix but one terminus,) you lose the trade of the Knoxville district; you lose a hundred and twenty-three miles in going to Charleston, fifty miles in going to Savannah, and you are but fifteen miles nearer to the West India trade by a Gulf port.

It is, however, to be remarked that Charleston is more favorably situated for the West India trade, than either Pensacola or Mobile, as will appear by statements made by Mr. Lafitte, of Charleston, now present.

Let us look at the result of making Knoxville the terminus. You reach directly the trade of that whole rich section; by the East Tennessee and Georgia Railroad, already built, you reach Chattanooga, and with a slightly increased distance through a rich country, you reap all the advantages promised by the other route.

You are also brought to Charleston, your best South Atlantic port, by the shortest route, more than one hundred and thirty-three miles less than via Chattanooga.

All consideration of public policy and commercial interest, then, seem to unite in urging you by no means to neglect the Knoxville connection. We are not here to disparage the merits of other routes which are here advocated. If the means were at hand for their construction, all of those proposed could be built with advantages to your city beyond the most extravagant statements which have been made to you; but, if you can designate but one terminus, Knoxville offers advantages which no other point can pretend to, and which have been admitted without controversy, by your most able and far-seeing business men and statesmen for forty years during which the subject has been discussed.

It may be said that if you fail to connect with Knoxville at this time, the people of that section will themselves push on their road from Wheeler's Gap to a connection with the other line near Chitwood. But, with all the zeal that they have hitherto displayed in this matter, and with their still undiminished in-

terest in completing the connection to Cincinnati they may be unable to do so. This point has been made sufficiently clear by Colonel Terry, and you may judge that, turned aside by the greater cost of the work on the twenty-five and one-half miles between the end of their work at Wheeler's Gap and Chitwood, and encouraged by the prospect of help from Louisville, they may adopt the cheaper line to join the road from Louisville now completed to Mount Vernon, and being urged forward toward London.

Some persons may undervalue the importance of the connection with Charleston, but such has not been, and I do not believe will be the general feeling among the business men of Cincinnati. The advantages of that port for European and West India trade, and especially for the movement of produce and merchandise during the winter months, when the inconvenience and expense caused by the snow and ice of the more rigorous climate of the North are avoided, need but to be adverted to claim your consideration.

It may also be urged upon you that the business of the great cotton belt below Chattanooga will repay you for the loss of the Knoxville connection, but I am most certain that you cannot afford to give up the trade of Knoxville, the mountain country of North Carolina, and the State of South Carolina, and go one hundred and twelve miles further for that portion of the Chattanooga trade that would not come to you under any circumstances, over the road now built between Knoxville and Chattanooga.

And, sir, there is another great center of trade in the cotton belt which has been considered to be of some importance. I refer to the city of Augusta, in Georgia. The people of that place, appreciating the vast importance of a railroad connection with the Valley of the Ohio and Cincinnati, have undertaken the building of a railroad to strike the Blue Ridge Railroad at Clayton, Georgia, 135 miles from Knoxville. This road will be 150 miles in length, and the total distance from Cincinnati to Augusta will be 566 miles, via the Paris, Mt. Vernon and Knoxville line, against 670 miles from Cincinnati to Augusta by the line via Nicholasville and Chattanooga, known as the direct, or Colonel Gaw's line—a saving of more than 100 miles between Cincinnati and Augusta.

Let us now look for a moment at the question of cost, although I do not hold that to be of paramount importance, because I believe that you have the energy and public spirit to build the road which you decide to be the best, whatever it may cost.

If I state the cost incorrectly, some of the gentlemen who are better informed will correct me.

From the statements made by the engineers who have examined the several routes:

From Nicholasville to State Line...\$4,600,000
State Line to DeArmand's Gap..... 2,360,000
De Armand's Gap to Chattanooga,
(adding \$10,000 for iron and ties,
to the estimate in Colonel Gaw's
report)..... 1,800,000

Total, 249 miles to build.....\$8,760,000

KNOXVILLE ROUTE.

Nicholasville to State Line.....\$4,600,000
State Line to junction with Knoxville Road, now graded..... 1,250,000

Total, 138½ miles to build.....\$5,850,000

It appears that you can secure the most important of the advantages which you seek by

a line of 112 miles less in length to build, and \$3,000,000 cheaper than by the line which would abandon Knoxville.

Mr. Chairman and gentlemen, I thank you for the patience with which you have listened to what I feel to have been a very imperfect statement of some of the claims which Knoxville and the connection via the Blue Ridge Railroad with South Carolina and Eastern Georgia, have upon your consideration.

The following statistics will show the routes:

DIRECT—COLONEL GAW'S ROUTE.		Miles.
Cincinnati to Nicholasville.....	112	
Nicholasville to State Line.....	113	
State Line to Chattanooga (Gaw).....	136	—361
Chattanooga to Charleston.....		446
Total.....		807
Cincinnati via Nicholasville to State Line.....	225	
State Line to connect at Wheeler's Gap, with grading now done on railroad.....	25½	
Railroad built to Knoxville.....	46	—296½
Knoxville to Charleston.....		410
Total.....		706½
Cincinnati to Charleston, via Chattanooga.....	807	
Cincinnati to Savannah, via Chattanooga.....	792	
Cincinnati to Charleston, via Knoxville.....	706	
Cincinnati to Savannah, via Knoxville.....	742	
Loss between Cincinnati and Charleston by taking Chattanooga route.....	123	
Loss between Cincinnati and Savannah by taking Chattanooga route.....	62	

POSITION OF SOUTH CAROLINA.

General Harrison, also of South Carolina, President of the Blue Ridge Railway, advocated the interests of that State. He alluded to the early efforts made to get a connection between Cincinnati and Charleston. There was then a mutual understanding between the people of nine States on the railway question. A railway connection with Columbia, with the Northwestern communication in view, was built at a cost of \$3,000,000.

Besides this, the State has expended \$2,500,000 on other roads for the same ultimate purpose—making in all \$7,500,000 of railway expenditures, hoping to reach Cincinnati and the inexhaustible resources of the Ohio and Mississippi Valleys.

Had we not sufficient reason to hope that could we reach Knoxville you would meet us there? Will you now turn back on us?

He then spoke of other railway connections south and southwest of Knoxville, and described the great mineral resources of the valley of North Carolina.

He spoke of the railway meeting at Augusta, Georgia, held within a few days, that resolved to build, at once, a connection with the Blue Ridge road. This will afford a route for Cincinnati to Atlanta shorter than any other.

The State of South Carolina has built and projected a perfect network of railways that will give Cincinnati a direct communication with Charleston and Savannah.

The speaker said that, instead of attempting to tell Cincinnati what benefits she will reap from the Knoxville connection, he would say something of its benefits to his own people. They had expected for a generation to enjoy the advantages of your grain fields and green pasturage. We have planted cotton and rice, expecting to be fed from other sections. We have been compelled to transport provisions two thousand miles, and have lost more in freights from the immense roundabout dis-

tance than would build the road from end to end. [Applause.]

We can not, as things now stand, raise rice, cotton, tobacco and sugar, without also raising a large portion of our provisions. If you will bring us within five hundred miles of your corn-fields, we can plant all our lands in such products as will grow most naturally with us, and exchange with you to the mutual advantage of yourselves and us. [Applause]

You can not fully realize the changed condition of things in the South. For example, we now need a stove in every house. Before the war we wanted no stoves. The South wants a million of stoves to-day. Would you not like to supply us?

We are now compelled to use machinery in agriculture. Do you not desire this patronage for your shops? Very little that is used on the farm is made at home. We have to look abroad for these things, but we can not afford to pay freight on wagons, buggies, &c., for 2,000 miles around.

In timber we have the finest of walnuts, cherries, &c., to offer you. The engineer said that in surveying the road from Walhalla to Franklin, it was not a rare thing to see a black walnut thirty feet in circumference and seventy feet to the first limb; also cherries equally tall without a limb. These trees would be worth something in your market.

The capitalists of the Southeast are waking up to the ocean trade. They can not see why the products of the West Indies should all be carried past the best harbors at Port Royal to Baltimore, New York and Boston, to be thence brought back to us. A change will be effected in this regard. Many of us will live to see the day when the richest trade of the country will be from South America, Spain and the West Indies, through Southeastern ports.

Port Royal will, at no distant day, be a great naval station, which will vastly aid us in attracting that trade which, by the laws of nature, should come to us instead of passing by us to Baltimore and New York. If you, of Cincinnati, will come to our aid, a great revolution will be speedily wrought in this regard.

The State of South Carolina has loaned its credit to the Blue Ridge road to the amount of \$4,000,000. This will enable us to push it to Knoxville in fourteen months, could a million of material aid from Cincinnati and another million from Louisville be procured. He thought that he could so present the argument that private capitalists of Cincinnati would at once subscribe a million.

It may be that if you do not make Knoxville your Southern terminus, we shall be discouraged. Cincinnati is worth more than the whole State of South Carolina; and yet our State has expended \$7,500,000 in railways, and has given her credit for \$4,000,000 more.

With such aspirations as the people of Cincinnati have in reference to her future greatness, how can she neglect to extend some material aid to the great universe about her from which she expects to draw her resources?

On motion, the meeting adjourned to assemble at 2½ P. M.

AFTERNOON SESSION.

Pursuant to adjournment, the meeting re-assembled at half past 2 o'clock.

The Chairman first called upon Colonel C. M. McGhee.

Colonel McGhee, who represented the East Tennessee and Georgia Railroad, was then called upon to address the meeting. He said:

I rise not to make a speech, but for the purpose of making a few statements of facts, which, I trust, will be of interest under the circumstances. I will, in my remarks, confine myself to the position you will occupy in the event of your reaching Knoxville by a direct route from Cincinnati. Knoxville is the center of the rich valley of Tennessee, passing through which are the two roads—the East Tennessee and Georgia road, and the East Tennessee and Virginia road.

Upon reaching Knoxville, and going to Richmond, Savannah and Charleston, or Alabama, you pass over the East Tennessee Railroad. This is the road leading from Knoxville and Chattanooga, a distance of one hundred and twelve miles; branching at Cleveland and reaching Dalton, a distance of one hundred and ten miles. I should not have deemed it advisable to refer to this road, were it not for a conversation with an intelligent gentleman of this city, who, in speaking of it, said they desired to avoid it, because, as he understood, no reasonable or equitable freight arrangement could be made with that line of road.

I am a director of that road, and am here to represent it. I can assure you, gentlemen, that upon that subject you have been entirely misinformed. The road is controlled by men of large views, and the policy of the road now is, and has been since the war, to pro-rate with all connecting roads. Cars are now passing from Memphis to Norfolk, the starting road fixing the tariff, and the East Tennessee and Georgia road taking their *pro rata* terms per mile.

It is important that Cincinnati should know these facts, if she determines to complete the road to Knoxville. It is important if the work is done, that definite and distinct business arrangements should be made between connecting lines, and that you should be assured of the fact that freight would be carried over the road at reasonable rates; and I pledge that road to enter into an agreement with you to allow you to fix the tariff upon whatever shipments you may start from Cincinnati, and we will take our *pro rata*. We will make the same arrangements with freight starting from Savannah, Georgia, and other points. This the East Tennessee and Georgia Railroad will bind itself to do. It is able to do it.

It is perfectly safe in doing it, for we know that its grades are better than almost any road North, its maximum grade being thirty-six feet per mile, and we can not reach Knoxville with less than sixty-five or sixty-six feet; and we are assured by Mr. Terry that equitable terms may be made with the road he represents, and upon the East Tennessee and Georgia Railroad the same terms may be made. I have devoted myself to the East Tennessee and Georgia Railroad and the East Tennessee and Virginia Railroad.

The line to Knoxville gives you a shorter line to all the interior of Virginia. It gives you the competing line with your present Norfolk connection; not a shorter line, but one about the same distance, and it gives you a competing line to Richmond and a nearer line to City Point.

The East Tennessee and Virginia road extends to Morristown. At that point the road has been built on the North Carolina road, and from Beaufort a road has been built to Morgan, or rather, more than ten miles beyond; a gap of three miles being left to be filled from Marion to Nashville, but is already under contract, and the means provided to

pay for a large amount of work done. The road that connects with them was, I saw, advertised for letting before I left home. Means are provided, and it will be built, without doubt.

Reaching Knoxville you have all the Chattanooga connection. You save this line to Dalton, and all its connections. You save the line to Virginia, and all its network of roads; and within eighteen months at the furthest, you will have a direct line to Beaufort, and to all parts of North Carolina; and all these roads, as I have said, will make any equitable and reasonable arrangements for freight passing on their line.

SPEECH OF GOVERNOR SCOTT, OF SOUTH CAROLINA.

Governor Scott, of South Carolina, who was next called upon, said:

The whole subject has been so fully discussed and so clearly placed before you, that little remains to be said in reference to the Southern connection or its importance. There is no one in Cincinnati or Charleston, or the intermediate country through which the road will pass, who does not fully appreciate the importance of any through connection from the interior to the seaboard, and opening up a region of country hitherto shut out by a mountain range as impassable as the Alleghany range from the north to the south.

But this is a line of so much importance that both the people of the Northwest, and those of the Southern seaboard have felt the break through this barrier of the greatest importance in a political, military and social point of view. Even during the administration of President Monroe, his Secretary of War ordered a survey of this region of country, with a design of connecting the head water of the Tennessee with the head waters of the Savannah river by a canal. This was deemed of importance, because it would afford a short line of communication with the fertile districts.

The people of South Carolina, Ohio, Kentucky and Tennessee, following up this survey, have constantly kept in view the importance of this identical route through Rabun Gap, and through the range of these mountains opening up a connection with the great Northwest, rich in every product, and rich in manufacture, and in every thing that makes a people great.

In the Southern cotton country, where the people have never turned their attention to manufactures, but are producers of those things required by the manufacturers, it is a matter of vital importance and necessity that they should possess a short and reliable means of communication. Hoping to find a sympathy in Cincinnati, and believing that Cincinnati would benefit by such a communication, we have kept ourselves in communication with you, and, in our poverty, we hoped you might extend some of your means as provided by your Legislature in completing the route to Knoxville, not knowing till we arrived here, that any other route was contemplated.

We have the road nearly half completed, without any debt hanging over it. The entire work has been paid for. Six millions more will complete the work. With the endowment of the State, probably four millions may accomplish the work. Our bonds, as a matter of course, not being at par, it will require more of the securities to accomplish the work than if we had currency to perform it with. It will be remembered that the money expended on this road was in gold, amounting to \$3,500,000, equal now to \$5,000,000. We have be-

lieved that on the immediate completion of this line of road it would fully pay the interest of its entire bonded debt; that an immense trade would pass from the Northwest to the seaboard, and back from the seaboard to the Northwest, through South Carolina, and Savannah, Georgia, which is as much a port connected with the benefits of this road as the seaports of South Carolina. The belief that the road would at once become a paying road, fully compensating for the outlay, is general and implicit.

But the matter to which I more particularly desire to call your attention is the general prosperous condition of our State.

The Governor then entered at length into details which we reluctantly abbreviate. 500,000 bales of cotton passed through Charleston last year, one-third of which was the product of the State. The crop of 1868 was an average one, amounting to about 200,000 bales, realizing at least \$20,000,000. The entire crop of South Carolina for the last year has been estimated at \$30,000,000.

As to the credit of the State of South Carolina, it was good. During the reconstruction of the Government the bonds and securities of South Carolina have been as low as thirty-five cents, and on one occasion as low as twenty-seven cents on the dollar. Now they are up to seventy-two and seventy-five cents on the dollar.

The public debt of South Carolina has not been increased during the reconstruction of the Government. The debt is now \$6,440,000, and the belief, the desire, and the determination to pay all its liabilities is beyond any question.

He desired to add, however, that although this was the full amount of the indebtedness of the State, there was in the Treasury three and a half millions (\$3,500,000) of assets, in the shape of stocks and bonds of the railroad corporations within the limits of the State.

In closing a most able and interesting address, of which we can give but the briefest outline, the Governor said:

In closing the few remarks that I have had the pleasure to address you on this occasion, I can truly say that I have spoken to you with all the feelings and sympathies of a former citizen of Ohio, although now representing the State of South Carolina. I feel, therefore, that in a peculiar degree I appreciate the interests of both Ohio and South Carolina. This proposed railroad connection will be the most efficient means of not only adding to the material prosperity of both States, but for bringing into contact and harmonizing communities which have heretofore been separated by mountain barriers and by differences of education, association and experience.

Whatever may have been true in the past, I can confidently assert in behalf of the great majority of our citizens, that while they are laboring to restore prosperity and harmony within our borders, they are equally desirous of contributing by every means within their power, to the welfare and advancement of the whole country.

Mr. E. D. Mansfield, who was next called upon, gave an interesting sketch of his long continued efforts to bring about a railroad connection between the North and South. He gave a sketch of the Railroad Convention of 1836, which he attended, and adverted to the first article ever written in favor of a Southern connection, which he had penned. The desire and necessity for the connecting railroad was now greater than ever, and he trusted to

live to witness its completion and triumphant success.

Mr. Gaw, who represented the Chattanooga route, passed some severe censures upon the facts and figures of the Knoxville advocates, and argued that as to practicability, saving of expense, and efficiency in securing the ends sought, the Chattanooga route was for many reasons most desirable.

On motion, the meeting adjourned, to meet at the call of the Chairman.

Cumberland & Ohio Railroad.

The charter for this road was obtained from the Kentucky Legislature during the past session, and is intended to enable the counties of Henry, Shelby, Spencer, Nelson, Washington, Marion, Taylor, Green, Barren, Allen, Metcalf and Larue to construct a railroad, one termini of which is intended to be in reality and for all practical purposes Cincinnati, while the other is intended to be Nashville. The construction of this road will more than double the taxable value of the very productive counties through which it passes, will materially add to the population and develop the resources of the great State of Kentucky.

The following is a synopsis of the charter:

§ 1st. Names the incorporators of said company.

§ 2d. Provides that the capital stock of the said company shall be five millions of dollars, in shares of one hundred dollars each—and who shall subscribe for same, with the usual provisions of incorporation.

§ 3d. Provides for the subscription and payment of stock.

§ 4th Provides for the election of a board of nine directors by the stockholders, and, also, for the election of a president by the board of directors.

§ 5th. Provides for the succession by annual election of a board of directors and president thereof and the filling of vacancies.

§ 6th. Provides for called meetings of stockholders.

§ 7th. Provides for reports from the president and board of directors to the stockholders.

§ 8th. Provides for the election of a treasurer, and defines the responsibilities of same.

§ 9th. Provides for further subscription of stock.

§ 10th. Defines the powers and duties of the president and board of directors in the appointment of agents, negotiating the wages of same, the erection and control of workshops and buildings necessary to the use of the company, in the transfer of stock and in the enactment of by-laws.

§ 11th. Provides for the increase of the capital stock of the company to not more than eight millions of dollars, and gives power to borrow not more than four millions of dollars.

§ 12th. Vests the company with all the powers and rights for the construction of a railroad from the Ohio River through Henry, Shelby, Washington, Nelson, Marion, Taylor, Green, Barren and Allen Counties to the Tennessee State line, with a view of connecting with the stem of railroads converging at Nashville, Tennessee, and provides that the company may connect at the Ohio River by intersecting with the Louisville and Covington

Railroad in Henry County, and provides for contracting with any party or parties for the construction of said road, and for connecting or consolidating with other roads, and for building bridges, tunnels, &c.

§ 13th. Contains the usual provisions for obtaining any lands, earth, stone or other materials needed for the construction and repairs of said road.

§ 14th. Provides for the president and board of directors taking immediate possession of any lands or materials needed in the construction and repair of said road.

§ 15th. Authorizes any city, town or county through which the road shall pass to subscribe stock in said railroad company.

§ 16th. Authorizes the company to unite this road, branch or branches with any other railroad or railroads, and to acquire interests in other roads or parts of roads.

§ 17th. Exempts the property of the company from taxation until completed, and gives privilege to construct telegraph line or to become owners of stock in any other company which may construct the same, and to establish an express company.

§ 18th. Gives power to acquire corporate rights and privileges in other States, and provides that the company shall begin work within three years and shall complete the road within ten years.

A convention of the corporators and parties who take an interest in the construction of the work was held at Lebanon, Ky., on the 23d of April.

R. J. Browne, Esq., of Washington County, was called to the chair, and Captain Frank M. Duffy, of the Hartsville (Tenn.) *Vidette*, James W. Hopper, of the Lebanon *Clarion*, and Colonel James P. Barbour, of Washington County, were chosen as Secretaries.

The Chairman explained the object of the meeting to be the construction of a railroad from Cincinnati through the above named counties to the Tennessee line, there to connect with the Tennessee road leading from Nashville through Lebanon, in Wilson County, crossing the Cumberland River near Hartsville, in Sumner County, and thence through Macon County to the Kentucky line.

The Chairman briefly enumerated the advantages of the road to the people along the line, as well as to the stockholders.

Several gentlemen addressed the meeting, setting forth the importance and urging the necessity for immediate action on the part of the friends of the road.

A committee of one from each county was appointed to report resolutions for carrying into effect the objects of this meeting.

The committee reported the following resolutions, which were adopted:

REPORT OF COMMITTEE.

We, the committee, beg leave to make the following report, viz:

That there be elected a President of the Board of County Commissioners, with a Treasurer and Secretary, and Assistant Secretary and four other members, who are to compose an executive committee, and are to be known as the Central Executive Committee; the duties of said committee are to superintend the management of the general affairs of the road, &c.

Resolved, That the commissioners named in the charter for each county shall constitute a committee in each county to solicit subscriptions to the capital stock of the Cumberland and Ohio Railroad Company, to provide for a

preliminary survey of route, and manage the interest of the said company in their respective counties.

Resolved, That said county committees be instructed to proceed to solicit subscriptions upon the terms prescribed in the charter to the capital stock of said company, and to pay over to the Treasurer of said Board of Commissioners such moneys as may be collected from subscribers, and such other contributions as they may be able to obtain, subject to pay the expense of a preliminary survey of route, and printing report of survey; and said contributions shall be a credit on any subscriptions made to the subscription of said company.

Resolved, That the Central Executive Committee shall have prepared in pamphlet form the charter of the company, and setting forth all the facts, statistics and arguments of importance to the interest of the same.

Resolved, That the Central Executive Committee be instructed to use all legitimate and proper means to bring the importance of the enterprise before the people of any city, county or other section or corporation, to induce them to contribute aid to the building of the road.

Resolved, That the Central Executive Committee confer with such parties and corporations in Tennessee as may be interested in the proposed railroad, and have such concerted action with the same as may be for the interest of the company.

Resolved, That each county committee appoint a chairman, who shall correspond with the Central Executive Committee, and thereby secure concert and harmony of action with all.

Resolved, That the chairman or any one of the County Commissioners of Green County, shall act on the committee for Metcalf County, to give the requisite number of commissioners to solicit subscriptions.

Resolved, That all moneys collected for preliminary surveys, &c., shall be promptly forwarded to the Treasurer of the Central Executive Committee, and no contracts shall be entered with engineers, &c., until there is a sufficiency on hand to pay for the same.

On motion of Dr. B. W. Stone, of Allen, the commissioners named in the Kentucky charter were instructed to organize by electing a President, Secretary and Treasurer, when the following gentlemen were chosen by acclamation: Hon. Z. F. Smith, President; J. H. Drane, of Shelby, Treasurer, and John Ad. Middleton, of Shelby, Secretary; and Wm. B. Wilson, of Eminence, Thos. S. Grundy, of Washington County, R. L. Ricketts, of Henry, in addition to the three officers named above, constitute the Board of Commissioners, to which, on motion, the names of Joseph H. Chandler, of Taylor, and T. Manion, Esq., of Allen, were added, thus constituting a board of seven members.

Brief and stirring addresses were then delivered by Captain E. A. Graves and Richard M. Spalding, Esq., of Lebanon; N. W. McConnell, Esq., of Hartsville, Tenn.; Wm. S. Helm, of Shelby; Jonathan Davis, of Spencer, and Dr. B. W. Stone, of Allen, all pledging the people of their counties to furnish liberal aid in constructing the Cumberland and Ohio road.

Captain E. A. Graves offered the following, which was adopted.

Resolved, That the Central Committee be requested to appoint a committee of gentlemen to visit Cincinnati, Louisville, Nashville and other cities, and solicit, from their City Councils and Boards of Trade, material aid in the construction of this road.

The following resolution was also adopted:

Resolved, That this convention request that Gen. A. P. Stewart and Capt. F. M. Duffy, of Tenn., are hereby requested to make a survey of the proposed route from Lebanon, Tenn., to the Kentucky State line, and report to the

President of the Kentucky Board of Commissioners.

Capt. F. M. Duffy, of Hartsville, offered the following, which was adopted.

Resolved, That this convention request the incorporators named in the Reviving Act of the Tennessee Legislature, at the session of 1865-6, to organize by the election of a President, Secretary and Treasurer, and that they be requested to communicate with the President of the Kentucky Board of Commissioners.

On motion it was resolved that copies of the proceedings of this convention be sent to the Cincinnati, Louisville and Nashville papers, the Hartsville *Visette*, the Lebanon *Clarion* and all papers along the line of the proposed road, with the request that they publish the same.

The utmost harmony and good feeling pervaded the entire proceedings, and with high hopes of the success of the enterprise, the convention adjourned.

R. J. BROWNE, President.

FRANK M. DUFFY,
JAS. W. HOPPER, } Secretaries.
JAS. P. BARBOUR,

Railroad Movements in Michigan.


RAILROAD MEETING AT ALBION.—At a meeting of the stockholders of the Northern Central Michigan Railroad, held at Albion, last Friday afternoon, the following named gentlemen were chosen as a Board of Directors: W. J. Baxter, of Jonesville, J. Riblett, Litchfield; George H. French, Homer; S. V. Irwin, Wm. V. Morrison, Stephen B. Crawford, Albion; E. Landon, Springport; A. N. Hart, Lansing; G. W. Hunt, Windsor; James Gallery, Eaton Rapids. Much zeal was manifested in favor of pushing ahead with the enterprise, and an executive committee was appointed, consisting of George H. French, of Homer, S. V. Irwin, of Albion, A. N. Hart, of Lansing. The report of the chief engineer shows that \$115,000 has been expended on the grade of the road, under the old Amboy charter. The towns on the line from Jonesville to Eaton Rapids that have not yet voted aid will do so at once. A good portion of the grading is also completed between Albion and Eaton Rapids. The towns between Eaton Rapids and Lansing will probably vote aid when called upon. This line is part of the great line of railroads from Cincinnati northward to Mackinaw, and its completion is only a question of time.—*Lansing Republican*.

THE RAILROAD MEETING.—It is with the most profound satisfaction and pride that we announce the fact that by a large and intelligent meeting of our citizens at the City Hall last evening, railroad aid was recommended to the extent of \$950,000, to be appropriated among four eminently meritorious enterprises, to wit: the Detroit, Howell & Lansing Road, \$250,000; the Detroit & Bay City Road, \$250,000; the Detroit, Adrian & St. Louis Road, \$250,000; and the Detroit, Ann Arbor & Jonesville Road, \$200,000. The vote of the meeting was a very decided one, fully two-thirds of those present voting in favor of the aid upon a division of the house. By the same vote it was decided that the aid should be donated outright, and not be deprived of the principal part of its efficacy by being hampered with conditions of security and repayments. The first named will give us direct communication with the capitol of our State, the second with the new and rapidly developing northern counties of this peninsula, the third a direct connection with the Mississippi without having to pass through and pay tribute to Chicago, the last a route to Chicago some twenty miles shorter than any now existing.—*Detroit Advertiser*, May 11th.

Final Decision in the Great "Hook-Headed Spike" Case.

Twenty-eight years ago Henry Burden of Troy commenced an action against Erastus Corning and John F. Winslow, for infringement of plaintiff's patent for making hook-headed spikes. The case went from one court to another until 1843, when the United States Court fully sustained the claim of Burden, and defendants were ordered to pay costs. Proceedings were then commenced to restrain Corning and Winslow from further violation of the patent. In 1853 this action was sustained by the courts, and Reuben H. Walworth of Saratoga was appointed to make up an account of damages plaintiff had suffered. And now commenced one of those long delays of justice which has made the suit famous to the bar all over the country, and which matches Dicken's *Jarndyce vs. Jarndyce*. The late ex-Chancellor commenced "taking testimony" April 5, 1854. The hearing was conducted at Saratoga Springs. Year after year dragged on, the Chancellor's son acting as scribe, and the use of the Chancellor's law office regularly charged in the bill for rent. How much was in the aggregate paid the Walworths is not known; but the egg was kept warm in the nest for twelve long years—the Chancellor making his report in May, 1866. He reported that Corning and Winslow had lost over \$33,000 in making spikes under the Burden patent. This decision was subject to review, and in October, 1867, the Hon. W. D. Shipman of New York was appointed to examine and pass upon the testimony taken by Walworth, and also on his report. Mr. Shipman has now made his report, which is concurred in by Judge Nelson. He awards Mr. Burden, on the evidence, \$8,475 09, being 90 cents per ton profit on the spikes made, with interest from March 31, 1849, to the date of the decree, amounting to \$20,341 21, beside "their costs in this action to be taxed. The costs thus added will not probably amount to less than \$50,000, making the total sum awarded to complainant about \$80,000.—*N. Y. Tribune*, April 19.

But Corning and Winslow can offset this. Some years ago they commenced a suit for the diversion of the channel of Poestenkill, on which the mills of both parties are situated. Corning's is a steam mill, while Burden gets his power from an immense water wheel, to run which it was necessary to change the course of the stream. Corning did not use the water for any purpose, and the question was one of riparian rights. To restore the stream would have been in effect, to pull down Burden's new mill, at great loss of time and money, as the present wheel must have been raised some four feet. The Court having adjudged in Corning's favor, he is now prepared to discuss a compromise, without seriously mutilating his check book.

 The Iron Ridge and Mayville (Wis.) Railroad Co. has been organized with the following Board of Directors: J. M. Bean, of Milwaukee; F. Paustian, Chas. Reudebusch, R. and Dr. A. Sauerherring, D. Naber and J. A. Barney, of Mayville. F. Paustian is President of the Board.

PETERS' MUSICAL MONTHLY for May is to hand, and well sustains the proud title it bears—"The Prince of Musical Monthlies," for if there is *any one* periodical adapted to suit the wants of all Lovers of Music, professional or amateur, it is certainly this Magazine.

The May number comes to us overflowing with Choice New Music. There are four New Songs, by Hays, Thomas, Danks, and Eaton; three Piano Pieces; and we notice a new feature in the shape of six pages of Quartet Music, which will prove a valuable addition; also, a dozen or more pages of Biographical Sketches and Reviews of New Music, that will be of interest to all Musicians. Being largely engaged in the publication of Sheet Music, Mr. Peters has always a fresh stock from which to make his selections, and seems nothing loth to draw from his resources to any required extent to make the Monthly what it should be. Besides the Musical Sketches and Reviews of New Music, each number contains no less than thirty full-sized pages of New Music by the best writers in the country.

When Music is furnished so cheap, what Musicians can afford to be without such a publication? \$4 worth of good Music cannot be picked up every day for 30 cents, and we feel justified in saying that a subscription at \$3 will give as much Music (and good Music too,) as you can buy for \$50.

This valuable Magazine is published by J. L. PETERS, 198 Broadway, New-York, (P. O. Box 5429.)

The East Pennsylvania Railroad Co. have declared a stock dividend of 100 per cent., payable on the 12th of May. The road has been leased for 999 years to the Philadelphia and Reading Railroad Company.

BLUE RIDGE R. R.

THE attention of Contractors is invited to the work of completing the Blue Ridge Railroad, in South Carolina, from Anderson, South Carolina, to Knoxville, Tennessee—a distance of one hundred and fifty-two miles to build.

The Executive Committee of the Board of Directors is prepared to enter into negotiations with responsible persons, who may desire to undertake the work.

Payments will be made in first mortgage (7) per cent. currency bonds of the Company, secured by the guarantee of the State of South Carolina, for the punctual payment of both principal and interest. The mortgage covers unencumbered property of the Company, which cost three and a quarter millions of dollars in gold, and embraces fifty miles of road complete and in running order.

Detailed Estimates, Plans, Profiles and Specifications, will be ready for inspection by JUNE 1, 1869. Meanwhile, approximate quantities and other information concerning the work may be obtained by application to Col. James P. Low, the Chief Engineer of the Company, or to the undersigned, at Columbia, South Carolina.

E. K. SCOTT,
Chm'n of Executive Committee.

29 4-9-5t.
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This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets $2\frac{3}{4}$ inches in width, and under. For Tickets over $2\frac{3}{4}$ inches in width.

SIZE NO. OF NO. FORMS.	PRICES.	SIZE NO. OF NO. FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms and also with working plans, if desired.

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MANUFACTURERS, EXPRESS COMPANIES,

PUBLIC OFFICES, Etc., Etc.

BINDING OF ALL KINDS NEATLY EXECUTED.

Those desiring FIRST CLASS BOOKS can have them done satisfactory at reasonable prices.

R. W. CARROLL & CO.

117 West Fourth Street, 2 doors east of Race.

WM. MERCER, R. B. MORE, GEO. STODDARD
Late Master Car Builder C.H.&D.&D.&M.
MERCER, MORE & CO.,
BUILDERS OF EVERY DESCRIPTION OF

RAILROAD CARS

Cambridge, Ind.

REFERENCES.
MITH, Pres't, C.&I.C. Railway, Columbus, O.
M. RYDENOUR, Pres't, C.&I.J.R.R. College Cor., Ind
J. M. LUNT, Sup't, C.&I.C.R.R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C.H.&D.R.R., Cincinnati,
J. H. WELLER, Ass't Sup't, D.&M.R.R., Dayton, O.
D. McLABEN, Gen'l Sup't, A.&G.W.R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C.&I.J.R.R., Hamilton
C. W. SMITH, Gen. Ft. Agt. C. & I.C. R.R., India at
Aug. 2, tf.]

THE
STEAM SYPHON PUMP
IS THE
*Most Simple, Effective and Durable Device for
Raising Water by steam, yet discovered.*


It is an independent LIFT AND FORCE PUMP, with-
out piston, plunger, valve, or movable parts of any kind.
IT CANNOT GET OUT OF ORDER, OR FREEZE UP.
WITH THE
STEAM SYPHON WATER-STATION
a locomotive can raise water, with its own steam, to fill
its tender in the same time as from an ordinary tank;
thus dispensing with tanks, pumping ma-
chinery, and men to attend them.

IT IS AN EFFICIENT
FIRE-ENGINE,
wherever steam power is used; as at Machine Shops
Shops, Elevators, &c.,

AND BY FAR,
THE BEST BILGE PUMP,
for Steam Vessels, in use
For Circulars and other information, address,
STEAM SYPHON COMPANY,
48 Dey Street,
NEW YORK.

VERY CHOICE
Oil Lands
IN
Kentucky & Tennessee,
FOR SALE BY
T. WRIGHTSON,
167 Walnut Street,
CINCINNATI

THROUGH
—FROM—
CINCINNATI TO NEW YORK
WITHOUT CHANGE OF
COACHES!
—VIA—
Atlantic & Great Western R'y.


PASSENGERS leaving CINCINNATI by the A. & G. W
Railway, on Saturday Morning, by the 6:00 a.m. Lightning
Express, go

THROUGH TO NEW YORK
Without Detention arriving in New York 3:15 p.m. next
day, Sunday
2 Through Lightning Express Trains for New York,
Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.			
Leave Cincinnati.....	6.15am.....	7.10pm	
" Dayton.....	8.35 ".....	9.30 "	
Arrive West Salem.....	1.50pm.....	4.53am	
" Leavittsburg.....	4.55 ".....	7.35 "	
" Meadville.....	7.35 ".....	11.10 "	
" Susquehanna.....	7.48am.....	11.29pm	
" Paterson.....	2.25pm.....	6.03am	
" New York.....	3.15 ".....	7.00 "	
" Boston.....	5.45am.....	4.45pm	

Sleeping Coaches on Night Trains the entire distance
between Cincinnati and New York.
The NIGHT EXPRESS leaves Sunday
night instead of Saturday night. All other
Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS
At Salamanca with Erie Railway.
At Mansfield with Pitts., Ft. Wayne
and Chicago Railroad.

THIS IS THE ONLY ROUTE
TO THE
OIL REGIONS OF PENNSYLVANIA
Passengers to the Eastern Cities will find the
Atlantic & Great Western R'y
A most Desirable Route.


The Engines, Cars, and other Equipments, are entirely
new, of the most modern, substantial, and approved de-
scription, unequalled by any Railway on this continent.

SLEEPING COACHES
Provided for all Night Trains, and Smoking Cars for all
Trains.
Ample time is allowed, at all hours,
for meals.

No effort will be spared by the Company to render a trip
over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!
FOR THROUGH TICKETS AND BAGGAGE
CHECKS,
Apply in Cincinnati at New Depot of Cincinnati, Hamilton
and Dayton Railway; or at northeast corner of Broadway
and Front streets, and at No. 80 Fourth street, nearly op-
posite Post Office. Also at any of the principal Railroad
and Steamboat Offices, in the West and South-west.
W. B. SHATTUCK, Gen'l Ticket Agt. L. D. RUCKER, Supt.


CENTRAL RAILROAD
—OF—
NEW-JERSEY.


On and after Monday, May 21, 1866, three Express
Trains will leave New York daily (Sundays excepted) via
Central Railway of New Jersey, and Allentown, leaving
Pier 15, foot of Liberty street, North River, at 7:00 and
9:00 a. m. and 12:00 p. m. On Sundays, one Express Train
at 8:00 p. m.
Passengers by this route save 60 to 130 miles, and Two
Hours' Time over other Lines, with but one change
cars to Chicago or Cincinnati, and but two to St. Louis.
Passengers front the East by Sound Boats or by Rail in the
morning, will have time for Breakfast before leaving the
City. Fares always as low as by other Lines.
State-room Sleeping Cars on Night Trains.

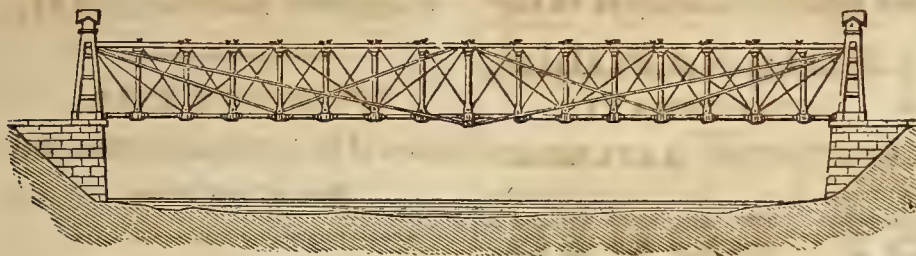
TRAINS FROM NEW YORK.
(Leave New York from foot of Liberty street, N. R.)
7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives
at Harrisburg 2 p. m., Pittsburg 12 night
9:00 a. m.—MORNING EXPRESS, for the West. This
train leaves New York Two Hours later than other Lines,
and arrives at principal places West at the same time.
12:00 m.—WAY TRAIN, connecting at Easton with
Lehigh Valley Railway to Mauch Chunk; at Reading with
Philadelphia & Reading Railway for Pottsville. arrives at
Harrisburg at 8:30 p. m. Without change of cars from
New York to Harrisburg.
8:00 p. m.—EVENING EXPRESS, for the West with
but one change to Cincinnati or Chicago, and but two to
St. Louis. This train leaves New York Two Hours later
than other Lines, and arrives at principal places West at
same time.

TRAINS TO NEW YORK.
(Leave Harrisburg.)
9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives
at New York at 6:00 a. m. next day.
3:00 a. m.—EXPRESS TRAIN, from the West, leaving
Pittsburg at 4:30 p. m.; passes Harrisburg at 3:00 a. m.;
Reading at 4:49 a. m.; Allentown at 6:00 a. m.; Easton at
7:09 a. m. Through cars from Pittsburg to New York.
9:05 a. m.—FAST LINK, from the West, leaving Pitts-
burg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Read-
ing at 10:52 a. m.; Allentown at 12:12 p. m.; Easton at
1:10 p. m. Through cars from Pittsburg to New York.
7:25 a. m.—WAY TRAIN, from Harrisburg, passing
Reading at 10:40 a. m.; Allentown 12:20 p. m.; Easton
at 1:35 p. m. Through cars from Harrisburg to New York.
Arrives in New York at 5:20 p. m.
2:10 p. m.—FAST MAIL, from the West, leaving Pitts-
burg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Read-
ing at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at
7:20 p. m. Through cars from Harrisburg to New York
Arrives in New York at 10:45 p. m.

H. P. BALDWIN, General Ticket Agent.
BEST ROUTE TO
ST. LOUIS & CHICAGO.

Monday June 24.
INDIANAPOLIS & CINCINNATI

RAILROAD.

Three Through Trains Daily.
Leave. Arrive.
St. Louis & Chicago Ex..... 7 00 A. M. 9 10 A. M.
Springfield & St. Joseph Ex..... 12 00 P. M. 4 30 P. M.
St. Louis & Chicago Ex..... 4 55 P. M. 12 15 A. M.
Sleeping Cars by this train for St. Louis and Chicago.
Accommodation Trains.
Leave. Arrive.
Lawrenceburg & Brookville Ac-
commodation..... 5 15 P. M. 5 05 A. M.
Harrisburg Accommodation..... 10 10 A. M. 2 25 P. M.
Through Tickets can be obtained at the Burnet House-
Spencer House and Gibson House Offices; also at the
Depot. The Passenger Depot of the Indianapolis & Cin-
cinnati Railroad is within a few squares of all the pri-
cipal hotels in the city.
J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

—In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

—For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1392.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and railroad work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunities of obtaining information enable us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings, every description of Copper, Sheet Iron and Boiler Work, and every article appertaining to the repair or renewal of Locomotive Engines.

KNOX & SHAIN,
ENGINEERING & TELEGRAPHIC
INSTRUMENT MAKERS

Philadelphia, Pa.

W. M. F. HEWSON,
STOCK BROKER,

21 WEST THIRD STREET, CINCINNATI.

Buys and sells Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collect

AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
S. E. Cor Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads, still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points, with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent.
myll Pittsburg, Pa.

CUMBERLAND COUNTY OIL LANDS,

NEAR

The Great Crocus Well,

[WITH

Productive Wells all

around them.

FOR SALE BY

T. WRIGHTSON.

167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

—IN—

Railroad, Car and Machine Shop

SUPPLIES,

—AN—

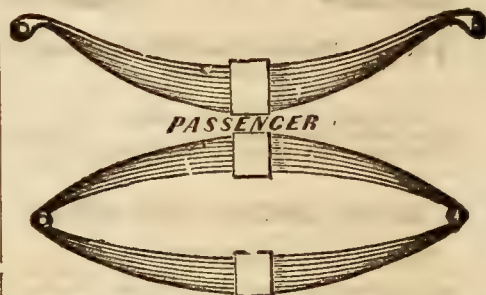
MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
330 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST.

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE

THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS,

Made at his Shops in Philadelphia. Employing only the most experienced workmen and best material, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight. All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.
Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,
Chilled Railroad Car Wheel, Ty
—AND—
Railroad Machine Works,
WILMINGTON, DELAWARE,
MANUFACTURE
Chilled Wheels and Tyres
FOR
Railroad Cars
and
Locomotive Engines.

ORDERS executed promptly for ten cent for the celebrated Wheels, either single or double plate with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner the shortest notice, and on the most reasonable

PASSENGERS

Purchasing Tickets via

Baltimore & Ohio R.R.

-TO-

BALTIMORE,

PHILADELPHIA,

NEW YORK, and

BOSTON,

HAVE THE PRIVILEGE OF GOING TO

WASHINGTON

Fare to Washington City same as to Baltimore.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
N. O. W. BROWN, General Passenger Agent.

Dec. 67.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at head office, south-east corner of Broadway and Front; Bureau House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.

Omnibuses call for passengers.

JANUARY 5th, 1868.**Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymr Acc.
Leave CINCINNATI, 7 40 a.m.	10 10 p.m.	4 00 p.m.	
Arrive SEYMOUR, 12 00 m.	2 00 a.m.	8 10 "	
Leave " 12 20 p.m.	2 10 "		
Arrive VINCENNES, 5 15 "	6 35 "		
Leave " 5 20 "	6 40 "		
Arrive ODIN, 9 35 "	10 30 "		
Leave " 9 45 "	10 40 "	6 30 a.m.	
Leave SANDOVAL, 9 55 "	10 50 "	6 40 "	
Arrive ST. LOUIS, 1 00 "	1 30 p.m.	9 40 "	
Trains Arr. at Cinc'ti, 6 10 a.m.	11 30 p.m.	12 00 m.	

For tickets, or information apply at Offices, 132 Vine street, Corner Front and Broadway; and at Depot, Foot Mill Street.

O. E. FOLLET Gen. Passenger Agent
J. W. CULCUP General Superintendent

Best Route to St. Louis and Chicago

INDIANAPOLIS, CINCINNATI —AND— LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS, CAIRO, CHICAGO,

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha
And all Rail and River Towns and Cities in the West,
North west and South-west.

5 THROUGH TRAINS DAILY,
(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express...	7.00 am	10 50 pm
Indianapolis and Cairo Express.....	6.30 am	9 30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.40 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.20 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl Streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

MOSELEY'S WROUGHT IRON ARCH

BRIDGES,

AND

CORRUGATED IRON ROOFS

[ARCHED AND FLAT.]



CORRUGATED SHEETS, OF ALL SIZES, CONSTANTLY ON HAND, PAINTED, AND READY FOR SHIPMENT, WITH INSTRUCTIONS FOR APPLYING THEM.

MOSELEY & CO.
Boston, Mass.

EDWIN J. HORNER,

Successor to

McDANIEL & HORNER,



Locomotive and Railroad

CAR SPRING MANUFACTURER,

Wilmington, Del., Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engines and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn

JOHN A. WRIGHT, Sup't.

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works
June 9

THE SCHENECTADY
LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.,

Continued to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING
LOCOMOTIVE ENGINES

AND OTHER

Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding the work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.

PASCAL IRON WORKS.

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1 1/4 to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from 1/2 inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1 1/4 to 24 inches in diameter, and branches, for same, &c.,

Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. P. M. TASKER
HY. G. MORRIS.

Philadelphia, Wilmington & Baltimore
RAILROAD!!

FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. (Express); 9.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West, 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS.—Leave Philadelphia for Baltimore at Washington at 4.15 A. M., and 11.00 P. M. Leave at Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD, { Editors
T. WRIGHTSON. }

CINCINNATI:
THURSDAY, MAY 27, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.
One square, single insertion..... \$ 1 00
" " per month..... 3 00
" " six months..... 12 00
" " per annum..... 20 00
" column, single insertion..... 5 00
" " per month..... 10 00
" " six months..... 40 00
" " per annum..... 80 00
" page, single insertion..... 15 00
" " per month..... 25 00
" " six months..... 110 00
" " per annum..... 200 00
Cards not exceeding four lines, \$5.00 per annum.
WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

ERIE, AND ATLANTIC & GREAT WESTERN.
Morning Express leaves 6:00 A. M.; arrives in New York 3:15 P. M., next day.
Fast Express leaves 9:15 P. M.; arrives in New York 7:00 A. M. second morning.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	3:15 P. M.
Fast Line.....	4:00 P. M.	10:00 P. M.
Lightning Express.....	10:00 P. M.	6:00 P. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillsboro Accommodation.....	3:40 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:55 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.).....	6:00 A. M.	5:20 P. M.
do do do.....	9:15 P. M.	6:00 A. M.
Toledo, Detroit & Canada.....	6:15 A. M.	10:25 P. M.
do do do.....	7:00 P. M.	7:25 A. M.
Lima, Ft. Wayne & Chicago.....	6:15 A. M.	10:25 P. M.
do do do.....	2:30 P. M.	6:40 P. M.
do do do.....	7:00 P. M.	7:25 A. M.
Sandusky, Cleveland & Buffalo.....	6:15 A. M.	6:40 P. M.
do do do.....	7:00 P. M.	10:30 A. M.
Connorsville & Indianapolis.....	6:15 A. M.	10:25 P. M.
do do do.....	2:30 P. M.	4:15 P. M.
Connorsville & Newcastle.....	6:00 P. M.	10:20 A. M.
Hamilton, Eaton & Richmond.....	6:15 A. M.	10:25 P. M.
do do do.....	5:00 P. M.	10:26 A. M.
Hamilton Accommodation.....	9:30 A. M.	8:05 A. M.
do do do.....	6:00 P. M.	6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

Connorsville, Rushville and Indianapolis Mail.....	6:15 A. M.	10:20 P. M.
St. Louis and Indianapolis Exp.....	2:30 P. M.	4:15 P. M.
Cambridge City and Newcastle.....	6:15 A. M.	10:30 A. M.
Cambridge City and Newcastle.....	6:00 P. M.	10:25 P. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	6:00 A. M.
New York Express.....	10:00 P. M.	5:00 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	8:45 A. M.
Springfield Express.....	3:40 P. M.	3:48 P. M.
St. Louis Lightning Express.....	11:00 P. M.	1:15 A. M.
Lawrenceburg Accommodation.....	10:40 A. M.	2:35 P. M.
do do do.....	4:45 P. M.	8:10 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	3:48 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:00 A. M.
Harrison Accommodation.....	6:05 P. M.	6:42 A. M.
Chicago and Cambridge City.....	6:30 P. M.	10:15 P. M.

OHIO AND MISSISSIPPI.

For St. Louis, Cairo.....	7:00 A. M.	6:00 A. M.
Evansville and Louisville.....	5:10 P. M.	9:00 P. M.
do do do.....	10:15 P. M.	11:15 P. M.

Only Sunday trains are 5:10 P. M., leaving, and 6 A. M. arriving.

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Palomoth Accommodation.....	4:45 P. M.	8:55 A. M.

The Condition and Prospects of the Country.

There is a great deal of talk, and has been for the past year, about the dullness of trade, taxation, public debts and crops, the tendency of which shows some dissatisfaction among men of business. A close observer, however, will note one remarkable feature of the case, that the dullness and complaints are confined to the class who distribute, or transfer products. There is no more complaints than usual among farmers, manufacturers, or laborers; who make nine-tenths of the people of the United States. If there were, it would soon show itself in demonstrations. Any class of people who think they are sufferers from any remediable cause will soon make themselves heard. The fact is the crops have been about the usual average, and prices high; consequently the farmers have not complained.

The manufacturers have made an average amount of goods, and sold them at fair prices; and the laborers are paid average rates in proportion to the cost of living. We see then that nine-tenths of the people have no cause to complain, and do not complain. What then is the cause of complaint in the other tenth. This tenth are the distributors and those connected with them, viz.: merchants, clerks, transporters, and some classes of mechanics. What is the matter with them? If we look at the causes at work, both during and since the war, we shall surely see the causes. The war caused a universal speculation among the classes that now complain. Some people went out of their old business, but they went into new ones which were wholly speculative. Many clerks and others in mercantile business went into the army. Great numbers of merchants had contracts with the government, most of them at enormous profits. The armies and munitions of the government were carried over railroads, which made great dividends. Thus the whole commercial class got into speculative habits. At the close of the war another cause of speculation arose. The whole South was opened to the North; and each merchant and manufacturer said to himself—"The South wants great quantities of food and clothing, and I will lay out to sell them goods." With this the importer increased his importations, the manufacturer his products, &c. But the first great cotton crop which was to be in the South, in part failed, and the debts were not fully paid, and some merchants lost, and others are still in debt. After this came a settling down, as we may call it, when merchants, dealers, transporters, agents and bankers, had to do business in the old way. Now this is precisely the cause of complaint, and with most of them, is mainly over. They must do business in a safe and moderate way or fail.

This they call "dull" and not to make 15 per cent. they call "poor." This is the amount of the whole complaint. In this, the

great majority of the community do not feel much sympathy, because, they feel that there is no reason, why speculation should be encouraged, or profits enormously large. The state of business may be illustrated practically by the case of a merchant doing a very large business, who returns his sales as very great, and his income as 3 per cent. on the amount. Now, supposing, as we do, that these returns are perfectly correct, and that his income may be a little larger, by the addition of set-offs he was allowed to deduct, what follows from his statements? Either, he is selling much more goods than the community is willing to pay for at a profit, or that, he is mis-managing his capital. The last is not supposable. The truth is, he has sold more than he ought to, and he has reduced the profits on his business, by doing too much. This is the case with many, and when they are compelled to come within moderate limits, they complain of "dull business." What is the remedy? Sell fewer goods and live on less. The last is the great remedy for the commercial classes. If the expenses of living are not reduced, a large number of men in business will fail in the next five years.

Let us now consider the general condition of the country.

1. The Income returns made by the Internal Revenue Officers, show that the general increase of the country, and the increase of wealth are as great as ever. The aggregate of Imports and Exports are as great; the receipts of railroads are as great. In one word the evidence is incontrovertible, that the nation in its industry, commerce and revenue is as prosperous, as at any period of its existence. There never will be a time when some classes of people will not complain that times are hard, money scarce, and they very unfortunate. This is human nature: Nevertheless, the fact remains, that this country was never materially or commercially better than it is to day.

2. The Currency. Perhaps there is nothing more complained of than the state of the currency, but let us form a definite idea of the condition of the currency: We have in round numbers, seven hundred millions paper money, issued by the government and the banks, about three hundred millions of this held by the banks and the government, as a fixed permanent quantity. This leaves four hundred millions in activity among the people. Is that too much? Let us see. We have forty millions of people; and the active currency is therefore just \$10.00 per each individual. The experience of the country shows, that this is not too much, hardly enough. It is not the quantity of currency then that makes any difficulty. What is it? Why, a banker says to us, this paper currency is impoverishing the country. How is it impoverishing the country? Can any body tell? The farmer sells every article on his farm, at full 50 per cent. higher than he could have probably got with gold

currency. If he buys any goods he buys them with a currency 40 per cent. above. The fact is, all our farmers are gaining by this currency, which Banker says is impoverishing the country. Now another case may be supposed, of a man dealing with Europe, where the currency is gold. But such a dealer knows, as the dealer in Europe knows the exact value of both gold and currency in terms of each other, and the exact import duty on foreign merchandise. If, then, the American dealer is to be impoverished by such an operation, it is because he is more stupid than the European, a case which we do not suppose. The fact is, we are no more impoverished by one kind of currency, than we are by another. Money can be got only by money's worth, and whether it be counted at 100, or 140, makes no kind of difference.

3. The finances of the country. The Public Debt has exercised the pens of innumerable writers on innumerable quires of paper. But it all lies in a nut shell at last. The first question is, does the Government mean to pay the debt? We opine that the American people will pay every dollar of the debt in gold, and have not the slightest doubt on that point. Well then, how is it to be paid? Simply by levying taxes (of all kinds) sufficient to pay:

1. The expenses of the Government.
2. The interest on the debt.
3. And a portion of the debt annually.

Do this, and in a very short time, (comparatively speaking) the debt will be paid; the present revenue is sufficient to do this, if it be prudently managed. Mr Boutwell is doing exactly right. Sell gold and buy bonds, and we shall soon have the bonds at par, and when we do, specie payments will be immediately resumed. In conclusion, we say again, this country was never more prosperous than it is to-day. Keep up honesty, and shut in gas, and we shall do well.

NEW MUSIC.—John Church Jr., has sent us copies of the following Music just published by this enterprising house: "Safely Through Another Week," a sacred song of musical sweetness and beauty, composed by that deservedly popular author, W. H. Doane. "Maiden's Story," a sentimental concert song of Clara Louisa Kellogg, which is a sufficient recommendation of its merits. The "Singing Leaves Waltz," by Holmes Lee, is a very pretty addition to the Music of the "Giddy Waltz," while the "Souvenir de Notre Dame Waltz," by Miss E. Bugbee, is an attempt to incorporate a little too much of the "solemncolly" into the "festive throng," to ever become a favorite with those who love to trip the "light fantastic toe."

The following gentlemen were elected directors of the Cincinnati, Wilmington & Zanesville R. R. for the current year:

Chas. Moran, New York; Chas. Reemelin, Bob't Brown, Joseph S. Gest, Geo. W. P. Atkinson, Peter A. White, and E. Gest, Cin'ti.

Memphis Convention.

The gathering at Memphis of one thousand Delegates from all parts of the country for the purpose of consulting in reference to the material interests and increasing the prosperity of the country can not fail of good results. The selection of representatives were made almost exclusively from the practical, common sense business classes of their respective communities. There was a surprising absence of acrimony, although considerable warmth, in the debates, wherever there was a supposed contest of local interests. There were four leading questions originally propounded for the consideration of the convention, although some other side issues were discussed. These four were "Direct Trade," "The Levees of the Mississippi," "A Southern Pacific Railroad" and "Immigration."

In the discussion of the first, "Direct Trade," the greatest amount of feeling was manifested, as it involved the local advantages and disadvantages of the contesting sea ports. A large store of very interesting information, (although not new to the well informed) was given to the convention relative to the depth of water, rise and fall of tides and the internal and external facilities of trade of all our South Atlantic and Gulf ports.

The question of "Immigration" is one of very grave importance to the South, and is most intimately connected with that of "Direct Trade." "Direct Trade" would furnish facilities for cheap transit from European ports to this country; in addition to this however, cheap fares would have to be furnished on the various lines traversing the Southern States, so that "Immigrants" could reach their destination in the interior without spending their all, as now would be the case. Further, there is another difficulty to be met with in inducing European "Immigrants" to the Southern States; it is this—there is no large tracts of cheap government lands. In the west the government has an inexhaustible supply of lands at \$1.25 per acre, and although it may be urged that many tracts in the South can to-day be bought at that price, or possibly for less, yet there is no certainty that in six months they can be had at double that sum. All the lands are in private hands, and a combination with uniform price, so as to present them in the markets of Europe is impossible. "Direct Trade" is exclusively a question of dollars and cents. The South has the export freights, and they can concentrate the necessary capital to establish several ports for "Direct trade," but it will not come of itself. The cash must be put up—the ships paid for, and the money put into goods for the return freights;—or better, the necessary inducements, rendered certain and unequivocal, of cheap transit and cheap homes, to bring the labor and capital of Eu-

rope to occupy the dormant territory of the South.

The question of improving the Levees of the Mississippi is one of vast importance, and is deserving of the greatest consideration on the part of the government. The best cotton and sugar lands of the country and the world are rendered valueless by the overflow of the Mississippi; no cost will be considered too great by the country that will effectually secure them from disaster. It is, however, a question in which engineers are not agreed as to the true method of accomplishing the result. While some claim that levees are the only salvation and hope; others again assert that, however applicable to the upper streams, they are the sole cause of disaster and ruin on the lower Mississippi. That the true remedy is not in the construction of "levees" whereby the banks of the river proper, as well as the bed of the river is raised, decreasing the fall and lessening the current, but in straightening the river and giving it another and shorter outlet, whereby the current would be proportionately increased and the natural bed of the river deepened. It is claimed by the advocates of this theory that this is practicable, will produce the result, and at about one-tenth the cost of levees.

As we before remarked there were several other subjects discussed, but we will refer only to one; a Southern Railroad from the waters of the Mississippi to the Pacific.

To say that this is a matter of importance to the South merely would be to state the case unfairly—it would have a most important bearing on the interests and commerce of the whole country. As the Company that proposes to construct the road on the line recommended by the Convention professes to have resources enough to do so, and asks for no aid or assistance whatever from the government, certainly we can have no objections to their making it, and we think the whole nation will bid them God speed. The following is the report of the Committee on Southern Pacific Railroad, which was unanimously adopted without debate:

"MR. PRESIDENT AND GENTLEMEN OF THE CONVENTION—Your committee, to whom was referred the matters relating to the Pacific Railroads, respectfully report the following resolutions for your consideration:

"Resolved, That, in the opinion of this convention, the interests of the whole country, especially those of the Southern States, could be served by a main trunk railroad line from Santiago, Cal., through the junction of the rivers Colorado and Gila, and along the valley of the Gila south of that river to El Paso on the Rio Grande, and thence to a convenient central point near the 32d parallel of latitude east of Brazos river, in the State of Texas, from which main trunk feeder roads should lead from St. Louis, Cairo, Memphis, Vicksburg, and other points, all of which feeder roads, having equal rights of connection with the main trunk; while similar feeder roads from San Francisco and other points on the Pacific coast should have similar equal rights of connection.

"Resolved, That the President of the Convention be requested to forward a copy of the previous resolution to the Vice President and Speaker of the House of Representatives, and request them to present the same to the respective Houses of Congress."

The committee, which is composed of representatives from seventeen States, including three members of Congress, give the following reasons for the report:

1. It is the shortest line connecting the Gulf of Mexico and Valley of the Mississippi with the coast of the Pacific ocean.

2. It is the line of all those now occupied, permitting the most easy grades and cheapest construction.

3. It passes through a less inhospitable and barren country, and over more fertile and hospitable lands than any other unoccupied route proposed.

4. This line is touched by water transportation at three points, affording the greatest facilities for construction, and consequently hastening and cheapening such construction.

5. This line will open to the world the great mineral resources of Arizona and Sonora, and render more valuable the great stock raising districts of Texas, New Mexico and Northern Mexico, and will thus enjoy an unrivaled traffic.

6. It will inevitably attract numerous feeders from the neighboring republic of Mexico, and thus not only stimulate enterprise there, but secure to our shipping ports the greater portion of the bullion which now seeks Europe by hazardous conductors and smuggling vessels.

7. It will open a new cotton growing area in Texas, New Mexico and Arizona, in lands of the cotton growing belt that are useless for lack of facilities for transportation.

8. It is well known that some roads which would be among the feeder roads referred to in the resolution, have not only been projected, but are already in active course of construction, without waiting for Government subsidy or encouragement.

9. Last, though not least, the construction of this road, more than all else beside, would encourage what we feel to be the great necessity of the hour—emigration and direct trade with Europe.

Respectfully submitted.

[Signed] LOGAN H. ROOTS, Chairman.
S. B. BEAUMONT, Secretary.

At the recent meeting of the Directors of the Chesapeake and Ohio Railroad, at Richmond, called to consider a proposition from certain wealthy capitalists to furnish \$12,000,000 in money, at 6 per cent. interest in gold, to build and equip the above road, provided they are allowed to buy the State's interest and have control of the entire road when finished. This secures the completion of this important road to the Ohio River.

The Richmond *Examiner* says the directory of the Chesapeake and Ohio Railroad Company have in contemplation the scheme of selling out to the Pennsylvania Railroad Company the State's interest in the Virginia Central Railroad, (\$2,000,000) and the State's interest in the Blue Ridge Railroad, (\$1,674,000) and that if the sales were made the Pennsylvania Railroad Co., would build a road from Pittsburgh to Charleston, on the Kanawha, or some other point in West Virginia connecting their line with the Chesapeake and Ohio Railroad.

Improvement of the Mississippi River and Southern Pacific Railroad.

The New-Orleans Commercial Convention we are told, proposes to press the demand for Congressional aid for river improvement and for the Southern Pacific Railroad. Neither object is to be condemned, but are we never to have anything from Commercial Conventions but appeals for money from the public treasury?—*N. Y. Tribune*.

To guard the Public Treasury is a great virtue, one which, at the present time, should be most especially esteemed as cardinal. But it should be remembered that the commerce of one-half of these United States floats on the bosom of the Mississippi and its tributaries; that impediments to this commerce by the natural accretions at the outlet of the Mississippi, is a matter that affects not only the local commerce of a town, but lays tribute on the products and commerce of the great central basin of this continent, the greatest and most valuable in the world. Is there then no reason, on general principles, why the general Government should have a care over the welfare and usefulness of this avenue of trade? There is not a harbor on the Atlantic coast of such intrinsic value to the country, not even that of New York itself, the preservation of which would be a work of local interest, as compared with the salvation of the commerce of the Mississippi Valley. The amount really needed for this purpose is but a flea-bite in the general expenditures of the government and should receive that consideration which its vastness and importance demands. We understand there is to be a proposition submitted by a Mr. CRAIG, to the New Orleans Convention to furnish a free channel of twenty-five feet of water at low tide for a sum that is so inconsiderable that it almost staggers the judgment to think of it—\$150,000. The money not to be paid until accomplished, Mr. CRAIG offers to keep the channel at that depth for one-half the above sum per annum for a period of years. Now we do not propose to discuss the feasibility of the plans of Mr. CRAIG, because he takes the risk. We will merely remark that he is a gentleman of intelligence and experience, and is ready to "go his stamps" on the success of his projected undertaking.

As to the Southern Pacific Railroad, the parties interested in the project of the 32d parallel, distinctly averred at the Memphis Convention, that they did not desire, neither did they intend to ask for a dollar of aid from the general Government for their project. All they ask is the right of way through the Public Domain. This would certainly not deplete the Treasury very much; the construction of a road across the continent without Government aid, but solely on its merits so far as the Government is concerned, will be regarded as the inauguration of a new era in our policy of internal improvement, and deserving at least, the good

wishes of all. Of their ability to carry to completion the construction of the proposed line we have nothing to say; the result will best tell. It was unequivocally stated at Memphis that the iron for three hundred miles of their road was bought, and some of it already shipped, and that the work of construction would soon be pushed with a vigor that would favorably compare with other works of equal magnitude. Let us, therefore, Mr. Tribune, hurrah for the road that proposes to "paddle its own canoe" over the "shortest, best and most practicable route between the navigable waters of the Mississippi and the Pacific."

Pacific Railroads at Detroit.

NEW TRANSIT ROUTE—The Committee of the Board of Trade, to whom was referred the subject of the new proposed transit route between the seaboard and the West, reported this morning the following resolutions to the Board, which were adopted:

Resolved, That the city of Detroit, as situated at the midway natural junction of the two great Pacific Railways, and on the most direct natural routes for "air lines," "easy grades," low costs and durable construction—all essential elements and conditions for cheapening rates and lessening time of transit—"can only realize her greatest destiny by taking enlarged views and adhering to a comprehensive policy" of extending co operation and material aid to all railroad enterprises that can see it for their interest to pass through our city and State.

Resolved, That the vast amount of produce and other property that will come from and along the south shores of Lake Superior and the great "North by Northwest," as the several sections of railroads are brought into use, united and consolidated into one line northward from Detroit to the Straits of Mackinaw, thence along the south shores of Lake Superior to the extreme west point of lake navigation, there to connect with and form a part of the great trunk line to the North Pacific Ocean, must of necessity have other railway outlets directly through eastward, on the north side of Lake Erie, and along the south shore of Lake Ontario, thence direct to Portland and the extreme eastern point of departure for European markets.

Resolved, That in this as well as many other avenues of transit, Detroit and Chicago each have large advantages not possessed by the other—yet in this question of "trans-continental railways," ship canals, and many other great questions of vital importance to the growth and welfare of the Northwest, it is for the interest of both cities to unite, in a concentration of power and influence for the accomplishment of these great national objects.

Resolved, That this Board most heartily endorse and appreciate the new explanations, and revival of one more of the important routes to the East, and thank General John A. Poor and the Chicago Board of Trade for this recognition of the over-riding fact that the great National transit railway lines from ocean to ocean must take the natural route of "air lines," "waterlevels" (or nearly so) and easy and durable structure, which lies through Detroit and the State of Michigan.

NORTHERN PACIFIC RAILROAD.—Thomas H. Caulfield, general manager of the Northern Pacific Railroad, called on Gen. Sherman to day, and requested that a military escort might be ordered to accompany the surveying parties now ready to start across the plains. The General has taken the matter into consideration, and if troops can be spared he will probably extend the desired aid.

TRUNK LINE FROM NEWFOUNDLAND TO DETROIT, IN EXTENSION OF THE Northern AND Central PACIFIC RAILROADS CENTERING AT DETROIT.—At a meeting, at Buffalo May 27, of citizens and members of the Buffalo Board of Trade, resolutions were adopted favoring the construction of a direct line of railway between Portland and Buffalo, as a part of the trans-continental railway from San Francisco to Halifax and Newfoundland.

PREVENTIVE OF THE DECAY OF WOOD.—Experiments have been carried on in Paris for a long time, in the intent of finding out a means of preserving palings, posts, etc., from decay. As the result of a few years' experience, a paint is recommended, which at the same time possesses the advantage of being impervious to water. It is composed of fifty parts of tar, forty parts of finely crushed chalk, five hundred parts of fine, white, hard sand, four parts of linseed oil, one part of the red oxide of copper, in its native state, and finally, one part of sulphuric acid. In order to manufacture the paint from this multiplicity of materials, the tar, chalk, sand and oil, are first heated in an iron kettle; the oxide and sulphuric acid are then added with a good deal of precaution.—The mass is then very carefully mixed. It is now ready for use, and must be applied while hot. In coating the timber, a stiff brush is used. If it is found upon using that the mixture is not liquid enough, a little more linseed oil should be used. After this paint has cooled and dried, it forms a coating or varnish quite as hard as stone.

It would be much better to impregnate the wood by the preserving quality of coal tar, viz: Carbolic Acid, by the Robbins' process, to which we referred a few weeks ago. Still the above is no doubt better than nothing.

ELECTION OF DIRECTORS OF UNION PACIFIC RAILROAD.—Boston, May 26.—The election of a Board of Directors for the Union Pacific Railroad Company was held here yesterday, under the recent act of Congress, and the following gentlemen were chosen unanimously: Oliver Ames, of Massachusetts; Benj. E. Bates, of Massachusetts; Sidney Dillon, of New York; John Duff, of Massachusetts; C. H. McCormick, of New York; Wm. T. Glidden, of Massachusetts; C. H. Bushnell, of Connecticut; F. G. Dexter, of Massachusetts; R. P. Hazzard, of Rhode Island; R. I. E. Atkinson, C. A. Lombard, O. S. Chapman, E. H. Baker, John R. Duff and F. Nickerson, of Massachusetts. In consequence it was stated, of the *ex parte* injunction of Judge Barnard, and numerous processes which he issued at the suit of Fisk, it was advisable to select a large proportion of the Directors from Massachusetts, in order to be freed from such suits. The organization of the Pacific Railroad Company was completed to-day. The Board of Directors elected: Oliver Ames, President; M. Duff, Vice President; John M. A. Williams, of Massachusetts, Treasurer, and E. H. Rollins, of New Hampshire, Secretary and Assistant Treasurer.

Greenville & Columbia Railroad.

PRESIDENT'S REPORT.

To the Stockholders of the Greenville and Columbia Railroad Company:

GENTLEMEN: The President and Directors respectfully submit herewith their annual report of the operations and condition of the Road for the fiscal year ending December 31, 1868, together with the report of the General Superintendent, and the statements of the Auditor, Treasurer and Foreman of the workshops.

By these statements it will be seen that the gross earnings of the Road for the year were as follows:

From freights.....	\$228,726 27
From passage and extra.....	103,384 35
From Gov't. transportation.....	1,898 35
From mails.....	11,535 00

\$345,543 97

Current or ordinary expenses..... 196,231 22

Net earnings over ordinary or current expenses..... \$149,312 75

Extraordinary expenses..... 20,000 00

Net balance, after paying all expenses whatever incurred during the year, both ordinary and extraordinary..... \$129,312 75

The account of extraordinary expenses is made up of expenses incurred in building and rebuilding locomotives and cars, and the material used for the same; rebuilding bridges and trestles, including the rebuilding of the bridge over Rocky River, near Anderson, which was burnt in April, 1868; the excess of wood purchased and paid for during the year over what was consumed; the surplus now being on the line of Road for future use; expenses incurred in the restoration of the property destroyed by the war, and the permanent improvement of the Road, which formed no part of the ordinary repairs or working expenses, and cannot properly be included in that account.

The improvement condition of the road-bed and track, and the increased quantity and improved condition of the rolling-stock during the year, cannot but be observed by every one who has been in the habit of traveling over the Road.

By reference to tables Nos. 1 and 2, it will be seen that the net earnings of \$129,312.75 is accounted for in the payment of accounts chargeable to maintenance of way and conducting transportation prior to 1868, and in the reduction of the amount of bills payable, and increase of cash on hand, as compared with the previous year.

The pay rolls for the year for labor and salaries have all been paid, and the material used has also been paid for.

By reference to table No. 5, it will be seen that the earnings for the year were in excess of any previous year since the Road has been in operation, except those of 1859 and 1860, when they were a little more, and except also the three latter years of the war, when the receipts were in Confederate money.

These results must be gratifying to all interested in the prosperity of the Road and country through which it passes, and clearly demonstrates that the Road has passed through its greatest trials and difficulties, and can in the future sustain and protect itself, and that the country along its line is rapidly recuperating, with a fair prospect, it is hoped, of a prosperous future.

By reference to the accompanying tables, which indicates the business of the year as compared with the business of each previous year since the war, it will be seen that the business has materially increased in every department. For instance, for 1868 the number of passengers carried over the Road were 45,214, while for 1867 the number was 32,201—an increase of 13,013. The number of bales of cotton carried in 1868 were 45,111; for 1867, 29,283—an increase of 15,828. The number of miles run in 1868 were 223,044; in 1867, 183,872; and in 1866, 118,446—being an increase over 1867 of 39,172, and over 1866 of 104,598.

For the present year, the indications are that the earnings of the Road will be largely in excess of the last. For the first quarter of 1869, ending March 31st, the gross earnings were \$120,677.56, while for the corresponding months of 1868 they were \$103,772.16, being an excess of \$16,905.40. And that extensive and active preparations are being made for an increased crop of cotton and grain along the line, it may be remarked that for the first quarter of the present year there have been sent up the Road about 6,000 tons of guano and other fertilizers, which is believed to be more than the aggregate quantity sent up since the Road was built. And while the quantity of fertilizers and merchandize has been so largely increased, it is gratifying to be able to state that there has been no detention or delay whatever in moving it. By the energy and industry of those having the transportation department in charge, and the willing, cheerful and efficient cooperation of all the employees in that department, all freights have been promptly forwarded to their several points of destination; but while this has been done, it has been by the greatest exertion and the continual use of all the rolling stock. A through arrangement made with the South Carolina Railroad Company, by which freights both up and down are sent through without breaking bulk in Columbia, has also facilitated the transportation of freights to a very considerable extent.

In looking forward to the prospect of a large increased crop the present year, and the increase of business resulting therefrom, it is clearly evident that the quantity of rolling stock should be increased at an early day. This can be done to a sufficient extent, it is believed, to meet all the requirements of the Road, without the purchase of any new stock, by repairing and rebuilding some of that which has been laid aside and not in active use for some time past. There are now five locomotives at the shops, taken up to be rebuilt, some or all of which it is expected will be completed and ready for use in moving the coming crop; and the recommendation of the General Superintendent, to build an additional number of freight cars during the coming summer, is heartily approved and endorsed. This can all be done without a large additional expense, except for material, some of which is now on hand.

Since the 1st of January last, 250 tons of new rail, (fifty pounds to the yard,) have been purchased and is now being laid down, to replace some of the flange rail on the upper end of the line. This has been partly paid for in old iron on hand and to be taken up, and the balance in cash. This will improve that part of the track materially, and by prudent management, it is believed that much of the worn out iron may be replaced in the same way, in a few years, without reducing the net income below a point which will be

necessary to met all expenses and pay all the interest on the bonded debt, when re-adjusted, promptly as it matures.

During the year, there were put into the Road 65,262 cross-ties and stringers, including 8,497 put into the Blue Ridge Road. There were also 995,992 feet of lumber used during the year for various purposes for which it was required. And it is presumed that an equal amount will be required for the present year.

The Blue Ridge Railroad from Anderson to Walhalla is still being worked by our Company, upon the same terms and conditions as at the date of your last annual meeting. It is expected that the Blue Ridge Railroad Company will very soon desire to terminate the lease and commence to work it themselves. The business of that part of the Road has about doubled in the amount of its earnings since the commencement of our lease, which is some slight indication of what may be expected when the entire line is completed to Knoxville; an event which we should look anxiously forward to, and which we have reason to believe will be accomplished in a very few years, or as soon as it can be done in the ordinary course of railroad construction.

For fuller or more complete information, with details as to the quantity and condition of the rolling stock, machine shops, &c., and the condition of the track, reference is made to the accompanying report of the General Superintendent, and your attention is respectfully invited to his several suggestions and recommendations.

Reference is made to the accompanying tables of the Treasurer, Auditor and Foreman of the work-shops, which furnish a very plain, full and satisfactory statement of the operations and condition of their several departments.

Annexed is also a list of the officers, agents and employes of the Company, with the rate of their several salaries or wages affixed, together with the capacity in which they are employed, and upon what portion of the Road they are employed.

For the information of the stockholders, and for their future reference, as well as for the information and reference of those interested in our bonded debt, the several Acts of the Legislature authorizing the guarantee of the bonds of the Company by the State are herewith annexed, with a condensed statement of the history of the Road, its bonded debt, &c.

The Road, with its branches, is 164½ miles in length, and cost, with its outfit, depots, real estate and machine shops.....\$3,081,213 52
Stocks held in other railroad companies..... 80,475 00

Cost of Road and property.....\$3,161,708 52
Capital stock paid in by individuals and the State..... 1,510,374 52

Cost of Road and property over capital stock paid in.....\$1,651,433 98

To provide for the difference between the cost of the Road and the capital stock paid in, the Company issued their bonds, bearing date from January, 1852, to March, 1854, respectively, having ten years to run, for \$800,000; and in order to give them a higher market value, on the 18th of January, 1854, they executed to Charles M. Furman, as trustee, a mortgage upon their entire property to secure their payment. They subsequently issued their bonds, bearing date July, 1855, and July, 1858, respectively, also having ten

years to run, for \$600,000. There was no mortgage or other lien executed to secure the payment of this latter class of bonds. By this it will be seen that the original bonded debt of the Company contracted exclusively in building the Road was \$1,400,000. There was, however, a floating debt then due by the Company, which was not funded.

In January, 1861, when the bonds secured by mortgage where approaching maturity, the Company applied to the Legislature for aid, and on the 28th day of January, 1861, an Act was ratified directing the endorsement of the guarantee of the State upon the bonds of the Company to the amount of \$900,000, providing that the bonds so guaranteed should be used for no other purpose than for funding a floating debt of the Company, then due, of \$100,000, and for taking up and retiring the \$800,000 of bonds secured by mortgage then approaching maturity. The Company commenced at once to readjust their mortgage debt in accordance with the provisions of the Act: and there can be no doubt but that they would have succeeded without difficulty but for the war, and the confusion and suspension of all kinds of business caused by it.

At the end of the war, they found their mortgage debt only partly re-adjusted, their debt outside the mortgage rapidly approaching maturity, a large interest account accumulated, their Road seriously injured and broken up, their depots and bridges burnt, and the country looked to for patronage prostrated. Under these circumstances, disheartening as they appear, the Company went to work to rebuild their Road, and again applied to the Legislature for aid. On the 20th December, 1866, an Act was ratified authorizing an additional endorsement of their bonds to the amount of \$350,000 to fund the interest on their mortgage and guaranteed debt at par, and \$250,000 to re-adjust their bonded debt outside the mortgage of \$600,000, with the interest upon it, at the rate of one dollar for three. These two Acts of the Legislature contemplated the guarantee by the State of the bonds of the Company to the amount of \$1,500,000, which was sufficient at that time to arrange their whole bonded debt, and that hereafter the Company would owe but one class of bonds, and those guaranteed by the State; and would have but one mortgage or lien upon their property, and that to the State.

A statutory lien to the State was contained in each Act upon all the property of the Company as security for the guarantee. The Company again proceeded to fund their interest and re-adjust their bonded debt, with a fair prospect of success, when the Convention, which convened in Charleston to frame a Constitution, passed an Ordinance suspending all Acts of the Legislature passed since December 20th, 1860, lending the name and credit of the State to corporations, until they were re-enacted and declared of force by a subsequent Legislature. This being the only Company whose bonds had been guaranteed under an Act passed subsequent to the date mentioned, it was framed and passed with special reference to them. The operations of the Company was again interrupted, and they were forced to suspend the funding of their interest, because, without the endorsement of the State they could not fund it in the same security which the holders then held. Application was then made to the present Legislature, and on the 6th of February, 1869, an Act was ratified, validating and re-enacting the previous Acts, and declaring them of force. The Company is again in condition to proceed in the re-adjustment of their debt, with a pros-

pect, it is believed, of not being again interfered with or annoyed. The Board of Directors, at a meeting held on the 4th day of March last, adopted a resolution signifying their acceptance of the Act recently passed, and directed that a copy of the resolution be furnished to the Comptroller-General and Secretary of State, in accordance with the requirements of the Act, which was done. Your concurrence in that resolution is respectfully requested.

In the meantime, during all their difficulties, the Company has gone steadily forward in the rebuilding and improving of their Road and property, whilst their income has been steadily on the increase. It has certainly ceased to be a question now as to whether they will be able to pay their interest and operate their Road successfully; and the holders of their bonds past due are respectfully invited to come forward and renew them, and take others endorsed by the State. They are now paying their six months' interest upon their mortgage and guarantee debt falling due on the 1st day of January, 1869, and funding all interest maturing previous and up to July 1, 1868, in their bonds guaranteed by the State.

The following is a statement of the bonded debt of the Company on the 1st day of January last:

First mortgage bonds outstanding.....	\$320,500 00
Interest on same to January 1, 1869	117,325 00
Coupons outstanding on first mortgage bonds,	22,032 50
Interest on same to January 1, 1869,	8,357 53—\$468,215 03
Guaranteed bonds issued under Act of 1861,	629,500 00
Coupons on same to January 1, 1869,	86,117 50
Interest on same to January 1, 1869,	10,242 73—725,860 23
Guarant'd bonds and certificates of indebtedness issued under Act of 1866,	246,618 52
Coupons on same to January 1, 1869,	17,263 30
Interest on same to January 1, 1869,	604,22—264,486 94
Bonds outstanding, not secured by mortgage,	485,500 00
Interest on face of same from maturity to January 1, 1869,	73,272 50
Coupons outstanding on same,	120,715 00
Interest on same to January 1, 1869,	29,292 19—708,779 69
Bonds and certificates of indebtedness issued under second mortgage,	50,683 68
Coupons on same to January 1, 1869,	3,547 86
Interest on same to January 1, 1869,	124 17—54,355 71
Total amount of bonded debt and interest, January 1, 1869,	\$2,221,696 70
This will be reduced by the funding of non-mortgage bonds and coupons at one for three,	472,519 78
Correct amount of funded debt when re-adjusted,	\$1,749,176 92

The litigation in reference to the foreclosure of the mortgage, together with that commenced by the guaranteed bondholders for their own protection; and also by the Attorney-General for the protection of the State, remains unchanged since your last annual meeting. It is hoped that the parties who commenced the suit, will see it is to their interest (as it certainly is) to withdraw it, and accept the terms of the Company for the renewal of their bonds, and thereby aid them in the re-adjustment of all their past due debt. This course would relieve all the parties of much annoyance and be to the interest of all concerned, because when that is done, and it is evident that the Company will be able to continue the payment of their interest promptly as it matures, which is certainly now clearly demonstrated. The guaranteed bonds will advance in market to a price much above the first mortgage bonds, which have not been exchanged.

It affords me much pleasure to testify again to the general good deportment and efficiency of the officers and employees of the Company in their several departments, and to commend them to your confidence and respect.

H. P. HAMMETT, President.

Columbia, S. C., April 9th, 1869.

Railroads of New York.

The following is a list of Railroad Companies organized during the year ending September 30, 1868, that have filed Articles of Association in the office of the Secretary of State of the State of New York:

Black River and St. Lawrence Railroad Co.—Articles of Association filed June 30, 1868. Length of proposed road about 38 miles. Located in Jefferson and St. Lawrence Counties. Capital stock, \$380,000.

Black River and Woodhull Railroad Co.—Articles of Association filed June 20, 1868. Length of proposed road and branches about 12 miles. Located in Oneida County. Capital stock, \$25,000. This road is to be laid with wooden rails, to be used for transporting lumber and wood with horse power.

Booneville and Constableville Railroad Co.—Articles of Association filed January 31, 1868. Length of proposed road 8 miles. Located in Oneida and Lewis Counties. Capital stock, 125,000.

Booneville and Ontario Railroad Co.—Articles of Association filed April 16, 1868. Length of proposed road about 45 miles. Located in Lewis and Oneida Counties. Capital stock, \$500,000.

Brooklyn City, Hunter's Point and Prospect Park Railroad Co.—Articles of Association filed July 31, 1868. Length of proposed road 16 miles. Located in Kings County. Capital stock, \$300,000.

Buffalo, Corry and Pittsburg Railroad Co.—Articles of Consolidation of the Buffalo, Oil Creek and Cross Cut Railroad Company, and the Cross Cut Railroad Company, of Pennsylvania, pursuant to Act Chap., 753, Laws 1867, forming the company, filed October 15, 1867.

Cattaraugus Railroad Co.—Articles of Association filed March 10, 1868. Length of proposed road, 22 miles. Located in Cattaraugus County. Capital stock, \$500,000.

Cazenovia and Canastota Railroad Co.—Articles of Association filed January 22, 1868. Length of proposed road, 15 miles. Located in Madison County. Capital stock, \$300,000.

Cornwall Suspension Bridge Railroad Co.—Articles of Association filed January 14,

1868. Length of proposed road about 15 miles. Located in Dutchess, Putnam and Orange Counties. Capital stock, \$2,500,000.

Eastern Branch of the Dutchess and Columbia Railroad Co.—Articles of Association filed October 11, 1867. Length of proposed road to be 16 miles. Located in Dutchess County. Capital stock, \$160,000.

East Side Railway Co.—Articles of Association filed March 18, 1868. Length of proposed road about 5 miles. Located in the City of New York. Capital stock, \$1,000,000.

Erie and Genesee Valley Railroad Co.—Articles of Association filed January 24, 1868. Length of proposed road about 25 miles. Located in Allegany, Steuben and Livingston Counties. Capital stock, \$500,000.

Erie and New England Railroad Co.—Articles of Association filed January 15, 1868. Length of proposed road about 37 miles. Located in Orange, Rockland, Westchester and Putnam Counties. Capital stock, \$2,500,000.

Far Rockaway Branch Railroad Co.—Articles of Association filed June 22, 1868. Length of proposed road, 5 miles. Located in Queens Co. Capital stock, \$75,000.

Fifth Ward Railroad Co.—Articles filed October 3, 1867. 2 miles. Located in Syracuse. Capital stock, \$50,000.

Flushing and North Side Railroad Co.—Articles filed April 3, 1868. Length of proposed road, 25 miles. Located in Queen's County. Capital stock, \$400,000.

Fulton Ferry and Canarsie Bay Railroad Co.—Articles filed October 11, 1867. Length 3 miles, in City of Brooklyn. Capital stock, 200,000.

Gloversville, Mayfield and Northville Railroad Co.—Articles of Association filed Feb. 18, 1868. Length of proposed road, 14 miles. Located in Fulton County. Capital stock, \$300,000.

Goshen and Deckertown Railway Co.—Articles of Association filed March 18, 1868. Length of proposed road, 14 miles. Located in Orange county. Capital stock, \$360,000.

Hamilton Avenue, Prospect Park and Flatbush Railroad Co.—Articles filed April 1, 1868. Length 4 miles. Located in King's County. Capital stock, \$200,000.

Lake Champlain and Moriah Co.—Articles of Association filed December 4, 1867. Length of road, 7 miles. Located in Essex County. Capital stock, \$200,000.

Lake Ontario Shore Railroad Co.—Articles of Association filed March 17, 1868. Length of proposed road about 140 miles. Located in Oswego, Cayuga, Wayne, Monroe, Orleans and Niagara Counties. Capital stock, \$4,000,000.

Liverpool and Syracuse (Horse) Railroad Co.—Articles of Association filed January 16, 1868. Length of road, 5 miles. Located in Onondaga County. Capital, \$100,000.

Middletown and Crawford Railroad Co.—Articles of Association filed August 3, 1868. Length of road, 13 miles. Located in Orange County. Capital stock, \$250,000.

Monticello and Port Jervis Railway Co.—Articles of Association filed September 2, 1868. Length of road 21 miles. Located in Sullivan and Orange Counties. Capital stock, \$500,000.

Montreal and Plattsburg Railroad Co.—Articles filed August 22, 1868. The property of the Plattsburg and Montreal Railroad Company, having passed into the hands of the bondholders a new company was formed under the above name. Length 23 miles. Capital stock, \$1,000,000.

Newburgh and Wallkill Valley Railroad Co.—Articles of Association filed January 16, 1868. Length of road, 15 miles. Located in Orange County. Capital stock, \$400,000.

Sunca Lake Branch Railway Co.—Articles filed August 17, 1868. Length 2 miles. Located in Schuyler County. Capital stock, \$30,000.

Southfield Branch Railroad Co.—Articles filed September 18, 1868. Length 1 mile. Located in Orange County. Capital, \$10,000.

South Side Connection Railroad Co., of Queen's County.—Articles of Association filed February 21, 1868. Length of road, 3½ miles. Capital stock, \$60,000.

Syracuse and Chenango Valley Railroad Co.—Articles of Association filed April 16, 1868. Length of proposed road, 50 miles. Located in Onondaga, Madison and Chenango Counties. Capital stock, \$1,000,000.

Syracuse Northern Railroad Co.—Articles of Association filed February 25, 1868. Length proposed from 32 to 45 miles. Located in Onondaga and Oswego Counties. Capital stock \$500,000.

West Shore Hudson River Railroad Co.—Articles filed October 28, 1867. Length of proposed road, 56 miles. Located in Rockland and Orange Counties. Certificate of consolidation of the Hudson River West Shore with the West Shore Hudson River Railroad Company filed—. Length of Hudson River West Shore Railroad, 30 miles. Capital stock, \$3,000,000.

Westport and Kingdom Railroad Co.—Articles filed November 12, 1867. Length of road, 5 miles. Located in Essex County. Capital, \$100,000.

American Geographical and Statistical Society.

PAPER BY WM. E. OGDEN ON THE UNION PACIFIC RAILWAY.

The annual meeting of the American Geographical and Statistical Society was held last evening at the Cooper Institute. A good audience was in attendance.

The President then introduced Mr. Wm. B. Ogden, who had consented, at the request of the Society, to read a paper on the origin and progress of the Union Pacific Railway. Mr. Ogden, after referring to the history of railroads, and their effects on the civilization of the present generation, continued by remarking that before entering upon the consideration of the Pacific Railway, it might be well to recount briefly the history of railroads. He referred to the struggles of James Watt and George Stephenson, and remarked that the first locomotive ever run on a railroad in this country was in 1828 or 1829. In 1834 locomotives were placed on the Baltimore and Ohio Railroad and on the South Carolina Railroad. In 1835 we had 1,000 miles of railroad. In 1846 we had 5,000 miles. In 1856 we had 22,000 miles; in 1866, 37,000; and now in 1869 we have over 42,000, [applause,] which cost more than two thousand millions of dollars. But the great achievement of the country and the age was the completion of the Union Pacific Railway. We now had from Bangor, Me., to San Francisco, Cal., 3,500 miles of continuous railway. Mr. Ogden thinks that the Government may, with absolute economy, build several such roads. A single Indian war without the roads would cost more for extra expense of transportation than the roads would cost. In fact, he had no idea the Indians would think about fighting any

more after they found that there were several railroads ready to carry troops against them at the speed of 20 miles an hour. The Speaker had traveled over the road and found the country much more attractive than he had supposed it to be. He gave a graphic description of the magnificent scenery among the Rocky Mountains, and described the rapid and systematic method in which the work of laying a mile of road in an hour was done. Mr. Ogden then gave a brief summary of the introduction of the first bill for the national highway to the Pacific; that at that time it was scarcely considered practicable; that Mr. Thomas Benton up to 1848 himself doubted the feasibility of extending the railway line to the Pacific. The speaker said he himself remembered how some men ridiculed the idea of running the Worcester and New Albany road over the Green Mountains and the snow-drifts of Winter. There is an impression in the mind of many to-day that the deep snows of the Sierra Nevadas cannot overcome, and that they will prevent the free passage of the Plains from the Atlantic to the Pacific. They are deep and terrible, it is true, but they will all be subdued! [Applause] Mr. Ogden continued: I have been 21 years spending my life in the construction of railways to develop the great Western world. I have refused from the beginning to touch one dollar of salary for my services as President. I have never bought an interest for myself in the lines of these railways, nor have I ever bought or sold one dollar of their stock in any speculation. Few men have been so accused of buying up all manner of railroads, and I have bitter enemies to-day who believe that their losses are chargeable to me in stock speculations. I have been remonstrated with, urged to take action against my enemies, but I told them it must be borne. I would not go back and undo what I have done for anything; and concluded by saying that there never was in the world a basis for investment of anything like the amount or anything like the security of a railroad. Banks may fail, ships may perish from usage, but railroads are a great real estate base extending from one end of the land to the other.

Mr. Samuel B. Ruggles then made a few remarks, and the meeting adjourned.

Mineral Resources of the Colorado River.

ROUTE OF THE 35TH PARALLEL.

"Cerber," a correspondent of the San Francisco *Bulletin*, discourses as follows of the mineral resources of Mohave county, in Arizona Territory, and the drawbacks to their development:

The newspapers are full of correspondence from the White Pine country, and the eyes of every body are at present directed towards that section of the country, remarkable for its extraordinary richness. It is highly gratifying to the inhabitants of the Pacific Coast, that our mining resources are not exhausted, but in the main are fully as rich and extensive as ever, since the first discovery of the precious metal on this coast. The discovery of the rich silver mines on the famous Comstock lode, carried everything before it, captivated the capitalists quite easy, and their money was given quite freely for the development of these silver bearing ledges in Nevada.

The recent discoveries at White Pine promise far to eclipse the palmy days of the Comstock mines. In connection with the White Pine country numerous enquiries have

been made of me about the mines and country bordering on the Colorado river, between Fort Mohave and Callville, the head of navigation.

THE SAN FRANCISCO DISTRICT.

To commence at Fort Mohave, as for some distance below there no silver mines have been discovered. Within ten miles of it, in the first range of mountains, known as the San Francisco District, a number of ledges have been located, some of which promise quite rich in silver, which, if they were anywhere else but in Arizona, would attract a good deal of attention, and much greater developments would have been made.

THE SACRAMENTO DISTRICT.

The next mines of any note are those of the Sacramento District, which is the second range of mountains from the Colorado river and about thirty miles east of Hardyville, seven miles above Fort Mohave. The mines of the Sacramento District are, with few exceptions, all argentiferous galena, such as are called at White Pine, 'base metal ores. There are such an abundance of mines containing this argentiferous galena (or base metal) that it is surprising so little has been done to develop them. It is an undeniable fact that all the ores carry as much silver with them per ton as do mines now profitably worked in and near Virginia City, Nevada. But to do the district, the mines and the holders of them no injustice, it must be stated that the Indians have so far disputed the right of the white man to work them. Within the last three years they have killed men at their work in the mines. At present the Indians are victorious, and the miner can not venture near them, there is little chance there for a poor miner. It requires a large company, able to employ 20 men or more, which might be considered safe, as the military will afford some aid. Could this be done—safety of person be insured—I don't know of any other mining district, White Pine excepted, that promises so rich.

Supplies and everything necessary can be shipped to within 30 miles of the mines, and also all the lead and base metals can be made available by shipping down the Colorado river to San Francisco, where it can be profitably marketed. Taking everything as found at present, all the disadvantages combined, companies with means, say from \$30,000 to \$50,000, cannot fail, working with any system at all, to be highly successful. Many valuable mines could now be easily obtained. If these base metal mines at White Pine can be worked successfully, the mines of the Sacramento District can be made treble so, for they have the same kind of ores, and plenty of wood, water and grass, with a pleasant climate. They are also on a straight line with the White Pine country, which a glance at the map will at once show.

AN UNDISCOVERED DISTRICT.

There is also a rich mining district northeast of the Sacramento District, but is as yet undeveloped, for it is not safe, nor has it been for years, for small parties to travel through that country. Before the Indians began to show hostility to the whites, they frequently brought pieces of the richest kind of silver ores to the miners then working in the Sacramento District, desiring them to go with them and they would show them the veins where they had broke the ore from, which they exhibited. There is no doubt if the state of the country permitted small parties to go wherever they pleased, rich developments would surely be made.

EL DORADO CANON.

El Dorado Canon (Colorado District,) sixty miles above Fort Mohave, has a number of mines already developed, some of which have been and are now worked with profit. It can not be said the mines are not rich enough, but the general rule of silver mining cannot be ignored here; it takes some capital to develop them although a good deal of work has been done there by the owners of the mines themselves. I would impress upon those proposing to prospect and mine near the Colorado river, to go well prepared, although living and everything else is much cheaper there now than it was a few years ago. Mining commenced in any of the above mentioned districts can be turned to good result, if commenced with judgment and vigor. An idea was entertained by many, until recently, that men could go to Arizona and pick up the gold and silver; that it was there in such abundance that no outlays beforehand were needed. The consequence has been that many have paid dear for their mode, and the effects of this infatuation still hangs over the whole country.

ARTIFICIAL STONE—The success of the Ransom process for moulding building stone, grindstones, architectural ornaments, etc., and of which we have given frequent descriptions, has drawn a considerable degree of attention to the general subject. At the recent meeting of the Polytechnic Association of the American Institute, Mr. Thomas Hodgson exhibited and explained two methods of manufacturing and moulding artificial stone ornaments, blocks, etc., for buildings. One of these is prepared by treating lime with a solution of four ounces of oxalic acid in a gallon of water, thus producing an oxalate of lime, which is mixed with from two to four times its weight of sand. In this condition the material is a moist, friable powder. It is then moulded to the required form in Plaster-of-Paris moulds, removed from the latter, and suffered to dry. It is then preferably placed in a bath of dilute oxalic acid, which causes it to harden throughout, after which it is ready for use. In making the other variety the inventor treats the oxalate of lime with a solution of silicate of potash, thus bringing it to a semi-fluid condition, whereupon it is poured into moulds and suffered to indurate. In response to queries, Mr. Hodgson said that the expense of ornamental devices made of such artificial stones would be but little, say ten or fifteen per cent., more than of common plaster casts, and that the resistance to crushing force would, he believed, be equal to that of most building stone in ordinary use; furthermore, that it had been thoroughly tested with reference to the effects of weather, and found to effectually resist the action of moisture, frost and sun.

Dr. Van der Weyde said that the oxalate of lime being one of the most insoluble substances known in chemistry, its employment in the fabrication of artificial stone was a lucky thought. The use of potash and soda compounds for such purposes had been extensively attempted with very poor results but the oxalate of lime was free from objections which hold good against such compounds. As to the hardness of artificial building materials, all mortars and cements harden with age, and the time will come when substances of this kind used at the present day will be lauded for their hardness and durability, as much as the mortars of the ancients are now. The employment of artificial

stone for various purposes is now greater than ever before. The walls of the Suez Canal are built of blocks a yard square, made of lime and desert sand, with a proportion of alumina.

ARTIFICIAL STONE.—Artificial stone, though it has failed in several instances in this country to furnish the requisite strength for building purposes, yet is very popular abroad. It is stated that in the magnificent aqueduct now in course of construction in France, to bring water from the forest of Fontainebleau to Paris, some of the finest arcades on which the work is supported in crossing valleys are composed of a mixture of sand and cement exclusively, no stone or brick being used. At Cherbourg, Marseilles, and Algeria long piers and docks have been constructed of artificial stone, and at Port Said, on the Mediterranean, the engineers of the Suez Canal are building the sea-walls of blocks of pure sand and hydraulic cement, weighing two tons each. Two long piers, respectively 5,900 and 8,200 feet long, formed of this material, have been run out into the sea.—*Artisan*.

The receipts of the Western Union Railroad Company for the week ending May 14:

	1869.	1868.	Increase.	Decrease.
Freight.....	\$7,801 55	\$7,712 57	.....	\$911 02
Passengers	3,831 37	3,230 80	600 57	.....
Express & Tel.	312 50	350 00	.....	37 50
Mail.....	375 00	375 00	.....	.....

Totals..... \$12,320 42 \$12,668 37 \$600 57 \$948 52

Receipts from January 1, to May 14:

1869.....	\$206,209 56
1868.....	\$200,556 05

Increase..... \$5,653 51

The following gentlemen are Commissioners appointed by the President to examine the completed sections of the Union Pacific Railroad: General Cyrus B. Comstock, United States engineers; General Joseph F. Boyd, of Kentucky; Samuel M. Fenton, of Pennsylvania; General Hiram Walbridge, of New York, and Edward F. Winslow, of Iowa.

BLUE RIDGE R. R.

THE attention of Contractors is invited to the work of completing the Blue Ridge Railroad, in South Carolina, from Anderson, South Carolina, to Knoxville, Tennessee—a distance of one hundred and fifty-two miles to build.

The Executive Committee of the Board of Directors is prepared to enter into negotiations with responsible persons, who may desire to undertake the work.

Payments will be made in first mortgage (7) per cent. currency bonds of the Company, secured by the guarantee of the State of South Carolina, for the punctual payment of both principal and interest. The mortgage covers unencumbered property of the Company, which cost three and a quarter millions of dollars in gold, and embraces fifty miles of road complete and in running order.

Detailed Estimates, Plans, Profiles and Specifications, will be ready for inspection by JUNE 1, 1869. Meanwhile, approximate quantities and other information concerning the work may be obtained by application to Col. James P. Low, the Chief Engineer of the Company, or to the undersigned, at Columbia, South Carolina.

R. K. SCOTT,
Chm'n of Executive Committee.

29-4-9-St.

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BACON'S PATENT.

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF	PRICES.	SIZE NO. OF	PRICES
NO. FORMS.		NO. FORMS.	
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms, and also with working plans, if desired.

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J. H. WELLER, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton
C. W. SMITH, Gen. Ft. Agt. C. & I. O. R. R., Indianapolis
Aug. 2, 1886.

THE

STEAM SYPHON PUMP

IS THE

*Most Simple, Effective and Durable Device for
Raising Water by steam, yet discovered.*

It is an independent LIFT AND FORCE PUMP, without piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP.
WITH THE
STEAM SYPHON WATER-STATION

locomotive can raise water, with its own steam, to fill its tender in the same time as from an ordinary tank; thus dispensing with tanks, pumping machinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops
Shops, Elevators, &c,

AND BY FAR,

THE BEST BILGE PUMP,

for Steam Vessels, in use

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Kentucky & Tennessee,

FOR SALE BY

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167 Walnut Street,

CINCINNATI

THROUGH —FROM— CINCINNATI TO NEW YORK

WITHOUT CHANGE OF
COACHES!

—VIA—

Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W. Railway, on Saturday Morning, by the 6:00 a.m. Lightning Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next day, Sunday

2 Through Lightning Express Trains for New York, Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6:15am.....	7:10pm
" Dayton.....	8:35 ".....	9:30 "
Arrive West Salem.....	1:50pm.....	4:53am
" Leavittsburg.....	4:55 ".....	7:35 "
" Meadville.....	7:35 ".....	11:10 "
" Susquehanna.....	7:48am.....	11:29pm
" Paterson.....	2:25pm.....	6:03am
" New York.....	3:15 ".....	7:00 "
" Boston.....	5:45am.....	4:45pm

Sleeping Coaches on Night Trains the entire distance between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday night instead of Saturday night. All other Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
At Mansfield with Pitts., Ft. Wayne and Chicago Railroad.

THIS IS THE ONLY ROUTE
TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely new, of the most modern, substantial, and approved description, unequalled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all Trains.

Ample time is allowed, at all hours, for meals.

No effort will be spared by the Company to render a trip over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN

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Apply in Cincinnati at New Depot of Cincinnati, Hamilton and Dayton Railway; or at northeast corner of Broadway and Front streets, and at No. 80 Fourth street, nearly opposite Post Office. Also at any of the principal Railroad and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. BUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1886, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a.m. and 8:00 p.m. On Sundays, one Express Train at 8:00 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change; cars to Chicago or Cincinnati, and but two to St. Louis. Passengers from East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. E.)
7:00 a.m. — CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m., Pittsburgh 12 night

9:00 a.m. — MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m. — WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 8:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m. — EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m. — EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m. — EXPRESS TRAIN, from the West, leaving Pittsburg at 4:20 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at 7:09 a.m. Through cars from Pittsburg to New York.

9:05 a.m. — FAST LINE, from the West, leaving Pittsburg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:52 a.m.; Allentown at 12:12 p.m.; Easton at 1:10 p.m. Through cars from Pittsburg to New York.

7:25 a.m. — WAY TRAIN, from Harrisburg, passing Reading at 10:40 a.m.; Allentown 12:20 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

2:10 p.m. — FAST MAIL, from the West, leaving Pittsburg at 3:10 a.m.; passes Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 10:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO
ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive.
St. Louis & Chicago Ex.....	7:00 A. M.	9:10 A. M.
Springfield & St. Joseph Ex.....	12:00 P. M.	4:30 P. M.
St. Louis & Chicago Ex.....	4:55 P. M.	12:15 A. M.

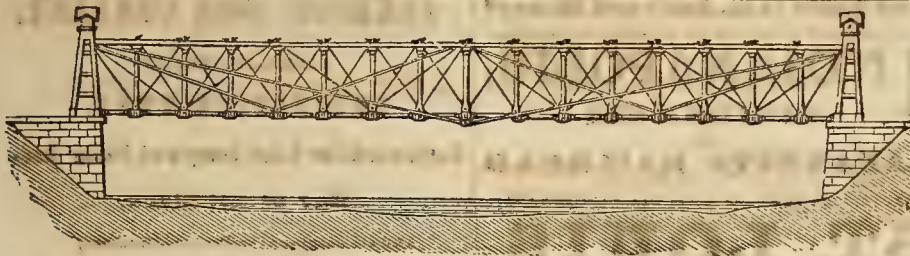
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5:15 P. M.	5:05 A. M.
Harrison Accommodation.....	10:10 A. M.	2:25 P. M.

Through Tickets can be obtained at the Burnet House, Spencer House and Gibson House Offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

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Letter Box, 1392.

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ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail and work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunity of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings; every description of Copper, Sheet Iron and Boiler Work; and every article appertaining to the repair or renewal of Locomotive Engines.

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ENGINEERING & TELEGRAPHIC

INSTRUMENT MAKERS

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Bank Note Engravers & Printers.

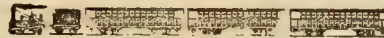
Also engraved in a style corresponding in excellence with that of Bank Notes,

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Constantly on hand, Bank Note Paper, made to order, of superior quality.

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Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

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No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent,
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Pittsburg, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

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Productive Wells all

around them.

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T. WRIGHTSON

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MANUFACTURERS, IMPORTERS & DEALERS

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Railroad, Car and Machine Shop

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—AN—

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
350 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



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LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and best MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.

Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

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Locomotive Engines.

ORDERS executed promptly. Rent for the celebrated Wheels, either single or double plate with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner the shortest notice, and on the most reasonable

GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

—TO—

BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,

WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**

From Cincinnati or Columbus to **Baltimore** and but **ONE** **CHANGE** to **Philadelphia and New York.**

Ask for **TICKETS** and **BAGGAGE CHECKS** via **Baltimore & Ohio R.R.**

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
G. B. GIBSON, General Western Passenger Agent.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mall.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run **SEVEN MINUTES FASTER** than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Burdett House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
 Omnibuses call for passengers.

JANUARY 5th, 1868.

Cincinnati to St. Louis Without
Change of Cars.

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Even. Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave ..	12 20 p.m.	2 10 "	
Arrive VINCENTES,	5 15 "	6 35 "	
Leave ..	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave ..	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at Cinc'ti,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine Street, Corner Front and Broadway and at Depot, Foot of Mill Street.

C. E. FOLLET Gen. Passenger Agent
J. W. CNLOGUE,
 General Superintendent.

Best Route to St. Louis and Chicago

INDIANAPOLIS,

CINCINNATI

—AND—

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,

CAIRO,

CHICAGO,

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha
 And all Rail and River Towns and Cities in the West, North west and South-west.

5 THROUGH TRAINS DAILY,

(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express...	7.00 am	10.50 pm
Indianapolis and Cairo Express.....	6.30 am	2.30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express. Sunday		
instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago.

Elegant Sleeping Cars on all night trains.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.10 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.10 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
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MOSELEY'S WROUGHT IRON ARCH**BRIDGES,**

AND

CORRUGATED IRON ROOFS

"ARCHED AND FLAT."



CORRUGATED SHEETS, OF ALL SIZES, constantly on hand, painted, and ready for shipment, with instructions for applying them.

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 Boston, Mass.

EDWIN J. HORNER,

Successor to

MCDANIEL & HORNER,**Locomotive and Railroad****CAR SPRING MANUFACTURER,**

Wilmington, Delaware

FREEDOM IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn**JOHN A. WRIGHT, Sup't.**

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works June 9

THE SCHENECTADY**LOCOMOTIVE WORKS,****SCHENECTADY, N. Y.,**

Continues to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING**LOCOMOTIVE ENGINES**

AND OTHER

Railroad Machinery, Tires, etc.

—AND ALSO TO—

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding the work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.

PASCAL IRON WORKS.

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas, Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1½ to 24 inches in diameter, and branches, for same. &c., &c.

Gas Works Castings, etc., etc.**PHILADELPHIA.**

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THOS. T. TASKER, JR.,

CHAS. WHEELER
S. P. M. TASKER

HY. G. MORRIS.**Philadelphia, Wilmington & Baltimore****RAILROAD!!****FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA FOR THE SOUTH DAILY**

4.15 (Express Monday excepted), 6.15 A. M.; 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West, 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS.—Leave Philadelphia for Baltimore at Washington at 4.15 A. M., and 11.00 P. M. Leave all time for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

Those roads in Ohio and Indiana which may have no direct connection with the South, will be counterbalanced by others in Michigan, Pennsylvania and Illinois, which connect directly with Cincinnati. On the whole, 6,000 miles of road will be a fair estimate for the Northern system to be connected through Cincinnati with the South. Now

what is the aggregate of the Southern system? This includes the Valley roads of Virginia, and nearly all the roads of North Carolina, South Carolina and Georgia, with several lines now running, and others to be soon constructed in Alabama, and some distance in Tennessee westerly. After examining maps and tables, we have made out the following table as those which will connect at some point in East Tennessee with the Southern road from Cincinnati, viz:

	Miles.
Virginia Valley Line to Tidewater.....	457
N. Carolina system <i>via</i> French Broad....	1,001
S. Carolina <i>via</i> Blue Ridge R. R.....	623
Georgia <i>via</i> Dalton.....	778
Alabama <i>via</i> Dalton.....	757
Tennessee <i>via</i> Chattanooga.....	616

Grand aggregate.....4,232

This calculation has been made, assuming Chattanooga as a center, but the result will be varied but little by taking either Knoxville or Dalton. Those points are too near together to make the general result very different by adopting either of them. Our object has been to show the immense results likely to be accomplished, and their immense value to Cincinnati. There are six thousand miles of railroads north of the Ohio and over four thousand south, totally unconnected, but each system needing the other. Kentucky stands like a narrow isthmus between them. If that barrier be broken down the railroad systems will flow together, with all the vast traffic North and South, and the consequences will be incalculable. We think, in view of facts like these, that notwithstanding the feeling and interest already excited on this subject, that even yet no just estimate has been made of the effects of a Southern road on the business of Cincinnati, or on the great intermediate country which would soon become populous, wealthy and commercial. Much of the trade to New York would be diverted South, and great changes made in the interior commerce of the country.

KANSAS PACIFIC RAILWAY.—We understand that complete arrangements have been made for the extension of the Kansas Pacific Railway from its present terminus at Sheridan, 405 miles west of Kansas City, to Denver. J. D. PERRY, Esq., the able President of the road, has been for some time at the East and has made the necessary negotiations for the bonds of the company, secured on the road and its very valuable lands, to carry forward the proposed work. This will give them an outlet to the Pacific *via* Denver and Cheyenne, over the Union and Central Pacific roads. It is hoped at some future time to continue the line of this route from near its present terminus *via* Albuquerque and the thirty-fifth parallel to the Pacific. At the present time it is the best route for the trade of New Mexico, North-western Texas and the Northern States of Mexico.

Indiana Railroad Law.

The Legislature of Indiana, at the recent special session, passed a law authorizing counties or townships to aid in the construction of railways by taxation.

The main features of the law are liberal and excellent, and its passage will mark an important era in the progress of internal improvements in that State.

By the provisions of this law any one hundred citizens and freeholders or a county, or twenty five citizens of a civil township, by their petition to the County Board of Commissioners, may have an election ordered on the question of aiding in the construction of any line of railway within the county, and if at such election a majority of the votes cast be in favor of such aid, the Commissioners are required to make the additional levy on the tax duplicate for this special purpose.

The question is not one left to the discretion of the Commissioners, but on the vote of such majority the tax must be ordered. The limit of amount is two per cent. on any one order, one-half only of which, or one per cent., can be collected in any one year. Additional orders may, however, be obtained in the same manner, from time to time, so that the aid granted to any given enterprise is limited only by the wishes of the people.

An important guard is interposed to prevent unwise or injudicious expenditures on works which will not be completed, by the provision that the aid thus granted shall be paid while the work progresses, and not in advance—one-half, also, of the amount becoming due and payable when the iron is placed on the track and the same is ready for the cars.

The very great interest throughout the country just now in the further extension of the railway system is earnestly shared by the people of Indiana, and there will be great activity in new enterprises under the provisions of this liberal enactment.

The amounts which may be raised by this system of taxation are very large, yielding, perhaps, on an average, for all the counties in the State, not less than seventy five thousand dollars each annually, making a grand total for the State, on the supposition that each county should avail itself of the privilege, of nearly seven millions of dollars. If twenty only of the ninety two counties in the State enter into this system of improvement, there will be raised the sum of one and a half millions of dollars.

It must be noticed further that the aid thus afforded is by way of *donation* to private corporations which may undertake the construction of the railroads.

There is scarcely a locality in the State, where a railway is desirable, that the entire cost of survey, grubbing, grading and bridging the road, will not be paid by these donations—so that the question of new railways in Indiana is placed nearly on a level with the repairs and renewals of lines already constructed.

The great interests in coal and iron in the southwestern part of the State will probably secure greater activity there than in other localities; but a rapid increase of railway facilities in all parts of the State will be immediately projected, and in many cases will be successfully completed.

The best feature of the plan is that it does not authorize the creation of a debt. It is to be a cash business. When people, therefore, vote aid to a railroad, they vote to tax themselves immediately and directly. This will

serve to prevent reckless expenditures.—*Gazette.*

The wise provisions of this law will soon be felt in the rapid development and advancement of the material prosperity of the State. We are unable to see any reason why people should be debarred of either necessities or luxuries, as long as they are able and willing to pay for them, especially when they propose to pay as they go.

The time unquestionably has arrived for a modification of the fundamental law of the State of Ohio in reference to municipal corporations and counties appropriating moneys by vote of their qualified electors for internal improvements. The wooden-headed "Section Six of Article Eight" should be obliterated as soon as possible, and general laws passed enabling any organized community, within proper metes and bounds, to transact its own business. But in all cases, as in the Indiana law, should they be constrained to *pay as they go*. There can be no more reasonable objection to this than there is to any man making an addition to his own house or barn. Indeed, if something or other is not done, Ohio will soon become like what Daniel Webster said of New Hampshire, "a good State to emigrate from." Although *anti-democratic*, yet if it can be done in no other way, to make the tax equitable and just, as between capital and labor, the vote to tax for aid to internal improvements might be according to each voter's interest in the duplicate. Or, in other words, if John Brown paid one hundred dollars tax, as per the county duplicate, let him vote 100; while if Tom Jones paid only ten dollars, his vote would be ten. The majority of dollar votes to decide the question of the tax. We confess, for our part, we are on the side of the old woman who, when she saw the machine for hatching chickens by steam and was informed by a by-stander that "they should not wonder if they did not yet get out a machine to make babies by steam," we "think we should like the old fashioned way best." No matter how it is done, let us have the right, under all circumstances, to vote to tax ourselves for what we think we want, if we will only *pay as we go*.

DIED—QUINCY A. KEITH, the President of the Kentucky Central Railroad, died at his residence in Covington, Monday, May 31, aged 53 years. Mr. KEITH was formerly a merchant of Cincinnati, but for several years past, as above stated, President of the Kentucky Central Railroad, in which position his talents as a business man have been displayed in the improved condition of the road and the comfortable shape of its finances. Mr. K. won the esteem of all with whom he associated by his urbanity and high-toned gentlemanly intercourse. The road has lost a valuable officer and the community an excellent Christian gentleman.

The Blue Ridge Railroad.

THE ADVANTAGES OF THE ROUTE BY KNOXVILLE AND RABUN GAP.

The following report made by a special committee of the Board of Directors of the Georgia Railroad and unanimously adopted, shows the superior advantages of the Blue Ridge route to connect Cincinnati and the West with the seaboard:

The committee to whom was referred the consideration of the projected railroad from Athens to the Rabun Gap, submit the following report:

The present condition and prospects of the Blue Ridge Railroad projected from Anderson, South Carolina, to Knoxville, Tennessee, passing through the Rabun Gap, have at the outset of their investigations claimed the attention of your committee. From a recent report of J. W. Harrison, Esq., President of the road, the following facts have been collected:

The entire length of the proposed road, known as the Blue Ridge Railroad, from Anderson to Knoxville, is 195 miles; the estimated cost of construction, \$7,575,000, of which amount there has been expended \$3,287,000, which has been absorbed in the construction of eighteen miles east from Knoxville to Maryeville, the completion of the road from Anderson to Walhalla, a distance of thirty-three miles, and the heavy grading, tunneling and masonry between Walhalla and Clayton a distance of thirty-one miles. The expenditure of so large an amount upon comparatively so short a line of the road is explained by the fact that between Walhalla and Clayton the passage of the Blue Ridge is achieved and all engineering difficulties overcome, though the summit is attained at the Gap, two and three-quarter miles west of Clayton. Some conception of the magnitude of the work upon this section may be formed from the statement that the estimated cost of the road in Georgia and South Carolina, which is seventy miles, and thirty per cent. of the distance to Knoxville, will, it is estimated, cost 58 per cent. of the whole road.

Upon that portion of the line west of Clayton to Knoxville, in which we are more directly interested, nothing as yet has been accomplished—save as before stated—the completion of the eighteen miles from Knoxville to Maryeville, leaving a distance of 115 miles, upon which nothing has been accomplished; thirty seven miles of this distance, however, to the North Carolina line, it is believed, will be provided for by the State of Tennessee, as she has, within the past two years, appropriated \$250,000 to that purpose, leaving a distance of seventy-eight miles in North Carolina and Georgia to provide for.

From Knoxville west, the Kentucky and Tennessee Railroad is now in partial operation, and will, it is believed, be completed at an early day to Danville, in Kentucky, from which point railroads are now in operation to Covington, on the Ohio River, opposite to Cincinnati.

In the present deranged condition of the country, it is impossible to anticipate anything with certainty, much less the completion of a work of such magnitude as this, involving as it does the expenditure of millions of dollars; but the efforts now being made by the officers of the road and the authorities of the State of South Carolina, the vital import-

ance of its completion to the railroad system of that State, the entire sacrifice of the millions already expended if the road is not completed, the insignificance of the debt of the company (less than \$250,000,) but above all the important fact that it is the nearest and cheapest transmountain connection between the great cities of the North-west and the Atlantic seaboard that has yet been projected, forbids the apprehension of its failure. Your committee, then, assuming that the work will go forward, and that at no distant day it will be completed, next directed their inquiries to the project more directly in view, viz: The proposed road from Athens to the Rabun Gap, and have to report, considering the topography of the country, from the best information to be obtained, that it is in the main remarkably favorable for the construction of a road.

From within a few miles of Athens an elevated plateau or ridge dividing the waters of the Oconee and Broad Rivers stretches north, upon which it is believed a road may be constructed without crossing a stream, and at no great cost for grading, passing by or near Harmony Grove to Poplar Springs, a distance of about thirty-seven miles. At this point the spurs of the mountains are encountered, and a detour to the east from the almost direct line hitherto pursued becomes necessary, passing near the base of a range of hills known as Chatahoochee or Currahee Ridge and a few miles east of the village of Clarks-ville. The Tallulah River is reached a distance of about forty miles from Poplar Springs, where the first and only stream involving any material cost for bridging and masonry is encountered; for the remainder of the distance to Clayton about twelve miles, the route would pass through stretches of valleys and along the slopes of the hills to the gap at the head of Sticoah Creek, thence to Clayton, or to Rabun Gap, as may be found most desirable, a distance from Athens estimated to be about ninety miles.

The region of country which would be penetrated by the road is proverbial for its salubrious climate and romantic scenery, and possesses unrivalled water power, is well adapted to the production of the cereals, abounds in mineral wealth and needs only accessibility to invoke skill, industry and capital to awaken it to new life and development.

The importance of this connection as a feeder to your road, your committee respectfully suggest, can scarcely be over estimated; to form some estimate of the increase of traffic likely to be thrown over it, and the danger of losing a large portion of that which it now possesses if it is not built, it is only necessary to compare the distances between Cincinnati and Augusta via Knoxville, Rabun Gap and Athens as compared with the route via Dalton and Atlanta or Nashville and Chattanooga.

From Knoxville to Augusta via Athens, it is about 330 miles; via Dalton and Atlanta, it is about 380 miles—a difference of near 50 miles in favor of the former.

From Cincinnati to Augusta, via Knoxville and Atlanta, is 670 miles; via Nashville and Chattanooga it is 836 miles; via Athens, it is 625 miles, making a difference in favor of the route via Athens, as compared with the former route as before stated of near 50 miles, and of the latter of 211 miles.

By a calculation of distances of the routes mentioned, it will appear that a large portion of the State will be as much interested as your road of the City of Augusta in the proposed road. Especially is this true of the in-

terior as you progress upon the line of your road, or the route to Rabun Gap, where the difference in the distance for the transportation of Western products would be lessened by the proposed connection hundreds of miles.

Your committee, in this connection, would call your attention to the fact that we can not rest supinely upon the supposition that if this connection is not made, we will still retain our present traffic from the West over our main line from Atlanta to Augusta, for upon the completion of the Blue Ridge Road, it will pass by the nearer and more direct route over the Carolina roads to Charleston.

Your committee have not overlooked the fact that even if the proposed road is built, it will be somewhat nearer from Cincinnati, via Knoxville, Rabun Gap and Anderson to Charleston, than between the same points via Athens. The distance by the former route being 743 miles, and by the latter about 763 miles, making a difference say of 20 miles in favor of the former route. They would remark, however, in this connection, that if the road from Augusta to Port Royal is built, the difference would then be slightly in favor of the route by Athens to the seaboard, over that by the Carolina Roads to Charleston. If, however, the Port Royal Road is not built, there are considerations, in the opinion of your committee, which would more than counterbalance the slight differences in the length of the two lines which they beg to suggest.

As has been stated in another connection, the passage of the Blue Ridge is achieved east of Clayton; as a necessary consequence, the grades upon that part of the line will be very heavy, being, upon some sections, as much as seventy feet to the mile; whereas, upon the projected line from Athens to Rabun Gap it is believed that the grades upon no part of the line will be heavier than that upon the line of the Georgia Railroad. The effect of this difference in grade, which is so important in the working of all railroads, and the cost of freightage, is too obvious to need to be stated.

Again, the shipper by the route to Augusta has the advantage over the shipper to Charleston direct, not only of that market but of two others besides. He has the favorite inland market of Augusta and the port of Savannah also. That this consideration alone will largely control the destination of products seeking a market, especially if there be capital to control, there can be no question nor should we overlook, in this connection, the important bearing of this route upon the traffic that must pass over it to the growing City of Savannah. It will be her nearest route to the great cities of the North west. In fine, if this road is built, we shall present almost an air line route (over one hundred and fifteen miles of our present road) from Savannah and Augusta in an almost due northwesterly direction to the Ohio River, where we are placed in connection by rail with St. Louis by existing roads or roads in contemplation.

A line like this, passing as it will over the most direct practicable route to its termini, developing a large extent of country now shut out from trade and commerce, and sharing the carrying trade between two geographical divisions of the continent, can but be remunerative and need fear no competition.

Your committee, therefore, in view of these considerations, recommend that so soon as operations are resumed on the Blue Ridge road, that steps be taken to have a survey made of the proposed road from Athens to Rabun Gap; that the Central Railroad be requested to aid

in the project, and that this company co-operate with all parties interested in any other steps that may be deemed advisable to secure the accomplishment of the enterprise.

Respectfully submitted.

S. THOMAS.
D. E. BUTLER.
GREEN MOORE.

New York Railroad Consolidation Act.

SECTION 1. It shall and may be lawful for any railroad company or other corporation organized under the laws of this State, or of this State or any other State, and operating a railroad or bridge, either wholly within or partly within and partly without this State, to merge and consolidate its capital stock, franchises and property of any other railroad company or companies organized under the laws of this State, or under the laws of this State and any other State, or under the laws of any other State or States, whenever the two or more railroads of the companies or corporations so to be consolidated shall or may form a continuous line of railroad with each other, or by the means of an intervening bridge or ferry.

SEC. 2. Said consolidation shall be made under the conditions, provisions, and restrictions, and with the powers hereinafter in this act mentioned and contained, that is to say:

1. The directors of the railroad companies proposing to consolidate may enter into a joint agreement, under the corporation seal of each company, for the consolidation of said companies and railroads, and prescribing the terms and conditions thereof, the mode of carrying the same into effect, the name of the new corporation, the number and names of the directors and other officers thereof, and who shall be the first directors and officers, and their places of residence, the number of shares of the capital stock, the amount or par value of each share, and the manner of converting the capital stock of each of the said companies into that of the new corporation, and how and when directors and officers shall be chosen, with such other details as they shall deem necessary to perfect such new organization and the consolidation of said companies or railroads.

2. Said agreement shall be submitted to the stockholders of each of the said companies or corporations at a meeting thereof called separately for the purpose of taking the same into consideration; due notice of the time and place of holding said meeting, and the object thereof, shall be given by each company to its stockholders by written or printed notices addressed to each of the persons in whose names the capital stock of such company stands on the books thereof, and delivered to such persons respectively or sent to them by mail, when their post office address is known to the company, at least thirty days before the time of holding such meeting, and also by a general notice published daily for at least four weeks in some newspaper printed in the city, town or county where such company has its principal office or place of business; and at the said meeting of stockholders the agreement of the said directors shall be considered, and a vote by ballot taken for the adoption or rejection of the same, each share entitling the holder thereof to one vote, and said ballots shall be cast in person or by proxy, and if two-thirds of all the votes of all the stockholders shall be for the adoption of said agreement, then that fact shall be certified thereon by the secretaries of the respec-

tive companies under the seal thereof, and the agreement so adopted, or a certified copy thereof, shall be filed in the office of the Secretary of State, and shall from thence be deemed and taken to be the agreement and act of consolidation of the said companies; and a copy of the said agreement and act of consolidation, duly certified by the Secretary of State under his official seal, shall be evidence in all Courts and places of existence of said new corporation, and that the foregoing provisions of this act have been fully observed and complied with.

SEC. 3. Upon making and perfecting such agreement and act of consolidation as herein before provided, and filing the same or a copy thereof in the office of the Secretary of State as aforesaid, the said corporation parties thereto shall be deemed and taken to be one corporation by the name provided in said agreement and act; but such act of consolidation shall not release such new corporation from any of the restrictions, disabilities or duties of the several corporations so consolidated, but nothing in this act contained shall allow any rate of fare for way passengers greater than two cents per mile to be charged or taken over the track or tracks of that railroad now known as the New York Central Railroad Company, and the rate of fare for way passengers over the track or tracks now operated by the said New York Central Railroad Company shall continue to be two cents per mile, and no more, wherever it is now restricted to that rate of fare, but nothing herein contained shall apply to street railroads.

SEC. 4. Upon the consummation of said act of consolidation, as aforesaid, all and singular the rights, privileges, exemptions and franchises of each of said corporations parties to the same, and all the property, real, personal and mixed, and all debts due on whatever account to either of said corporations, as well as all stock subscriptions and other things in action belonging to either of said corporations, shall be taken and deemed to be transferred to and vested in such new corporation, without further act or deed; and all claims, demand, property, rights of way, and every other interest, shall be as effectually the property of the new corporation as they were of the former corporations, parties to the said agreement and act; and the title to all real estate, taken by deed or otherwise, under the laws of this State, vested in either of such corporations, parties to said agreement and act, shall not be deemed to revert or be in any way impaired by reason of this act, or anything done by virtue thereof, but shall be vested in the new corporation by virtue of such act of consolidation.

SEC. 5. The rights of all creditors of and all liens upon the property of either of said corporations parties to said agreement and act shall be preserved unimpaired, and the respective corporations shall be deemed to continue in existence to preserve the same, and all debts and liabilities incurred by either of said corporations except mortgages, and duties of either of said corporations shall thenceforth attach to such new corporation, and be enforced against it and its property to the same extent as if said debts, liabilities and duties had been incurred or contracted by it. No suit, action or other proceeding now pending before any court or tribunal, in which either of said railroad companies is a party, shall be deemed to have been abated or been discontinued by the agreement and act of consolidation as aforesaid, but the same may be conducted in the name of the existing cor-

porations to final judgment, or such new corporations may be, by order of the Court, on motion, substituted as a party. Suits may be brought and maintained against such new corporation in the Courts of this State, for all causes of action, in the same manner as against other corporations therein.

SEC. 6. The real estate of such new corporation, situate within this State, shall be assessed and taxed in the several towns and cities where the same shall be situated in like manner as the real estate of other railroad corporations is, or may be taxed and assessed, and such proportion of the capital stock and personal property of such new corporation shall in like manner be assessed and taxed in this State, as the number of miles of its railroad situate in this State bears to the number of miles of its railroad situate in the other State or States.

SEC. 7. Nothing in this act contained shall be so construed as to allow such consolidated company to charge a higher rate of fare per passenger per mile for any part or portion of such consolidated line than is now allowed by law to be charged by each existing company respectively; nor shall this act apply to street railroads, and nothing in this act contained shall be so construed as to effect and impair in any way the validity of any contract now existing between the Buffalo and State Line Railroad Company and the New York Railway Company.

SEC. 8. All the provisions of the act entitled "An act to authorize the formation of railroad corporations, and to regulate the same," passed April 2, 1850, and of the several acts amendatory thereof or in addition thereto, shall be applicable to the new corporation so to be formed as aforesaid so far as the same are now applicable to the railroad companies of this State, which may be consolidated with any other companies by virtue of this act.

SEC. 9. No companies or corporations of this State, whose railroad run on parallel or competing lines, shall be authorized by this act to merge or consolidate.

SEC. 10. This act shall take effect immediately.

HON. LORENZO SHERWOOD.—Though altogether unused to the mournful task, it is eminently proper, in recording the death of this distinguished gentleman, which occurred on the 12th inst., that we should pay some fitting tribute to the worth and services of the departed. The cause of railroad extension and improvement had no votary more sagacious or energetic. His contributions to the columns of this paper, and his memorials to Congress on railroad topics, were always read by intelligent men with more than ordinary avidity. At the time of his death, Mr. Sherwood was President of the "National Cheap Freights Railway League," for promoting the desired improvements in railway organization and management—the publications of which League, with his memorials to Congress on "Railway Policy" in its broadest and highest character, are alone sufficient to form an enduring monument to his sagacious views and energetic efforts in this great branch of the public interests.—*Am. Railroad Journal*.

✎ A contract for building the Nashville and Montgomery Railroad between Decatur and Montgomery, Alabama, has been awarded to Sam. Tate and others. The price to be paid is five million and fourteen thousand dollars.

Cleveland, Columbus, Cincinnati & Indianapolis Railroad.

This property is a consolidation of the Cleveland, Columbus & Cincinnati with the Bellefontaine Railway Company. The consolidation was consummated and took effect May 14, 1868, but considering that the official year is to close December 31, the first annual report is made to cover the joint transactions of the two constituent companies for the full year.

To this consolidation the Bellefontaine Company contributed (from Indianapolis to Galion) 202.60 miles, and the Cleveland, Columbus & Cincinnati Company (Cleveland to Columbus 137.98 and Springfield to Delaware 49.89) 187.87 miles. Thus the total length of direct track is 390.37 miles, on which there are 29.59 miles of second track and 41.25 miles of sidings. Equivalent single 4 feet 10 inches gauge track 461.21 miles, averaging 56 lbs. per yard of rail.

The number of locomotive engines in the consolidation was 83, from the C. C. C. Company 47, and from the B. Company 36, two of which were replaced by new engines during the year, and eight others were thoroughly rebuilt. Steel tyres are being substituted for iron tyres, and so far as brought into use, have proved to be economical both in general wear and their entire freedom from breakage.

The number of passenger train cars was, at the close of the fiscal year, as follows: 43 first-class and 4 second-class passenger cars, 10 baggage, 5 baggage and express, and 7 mail cars. Two baggage and express cars were built during the year. The number of merchandise cars was at date as follows; 736 house, 239 live stock, 319 platform, and 21 caboose cars. Of these there were built during the year 18 house and 23 live stock, and during the same time 13 house, 14 live stock and 18 flats were condemned and broken up. The increased and growing traffic of the road, however, demands large additions to this apparently extravagant amount of equipments. The mileage service in all branches for the year is thus summed up: Passenger trains run, 768,374; freight, (including switching,) 1,261,755; repairs and graveling, 80,509; and fuel, 66,767—total, 2,177,407 miles. The cost per train mile for repairs was 9.21 cents. Of the total number of passengers carried over the road, viz: 546,377, the through travel numbered 76,036, and the travel from station to station 470,341. The result was a mileage of 29,770,918 miles, earning \$849,283.58, or 2.85 cents per mile. The amount of freight or merchandise (net load) was 628,356½ tons, and the transportation mileage 95,130,679½ miles, resulting in earnings, \$1,843,129.82, or 1.94 cents per mile.

The earnings and expenses accounts are very full. From these we make up the following:

EARNINGS.

Passengers	\$849,283 58
Freight	1,843,129 82
Express	115,114 86
Mails	61,918 00
Rents	48,901 57
Berea branch	8,886 79
Interest and dividends	11,943 69
Miscellaneous	15,065 33
Earnings L. M. & Col. & X. R.	
R. to Nov. 30, 1868	8,369 68
Total	\$2,962,613 62

EXPENDITURES.

Operating	\$1,976,002 65
National and local taxes	152,161 94
Net revenue	\$834,449 03
Bond interest	\$94,935 13
Dividends, 7 p. c.	731,244 50
Surplus	8,269 40
Surplus on consolidation C., C. & C. R. R.	156,048 83
Bellefontaine Railway	78,283 97
Surplus Dec. 31, 1868	\$242,602 20

The following is a statement of the earnings and expenses of the consolidation for the last five years. They are simply abstract accounts, and lose much of their value from our inability to compare them with mileage of passengers and freight through the series of years. The loss in earnings may be attributed to a general lowering of rates.:

—C. C. & C. R. R.—		
Fiscal year.	Earnings.	Expenses.
1864	\$2,499,348	\$1,264,185
1865	2,386,132	1,550,622
1866	1,933,730	1,254,017
1867	1,894,887	1,228,434
1868		

—Bellefontaine R. R.—		
Fiscal year.	Earnings.	Expenses.
1864	\$1,748,644	\$1,161,744
1865	1,675,164	1,182,257
1866	1,325,280	973,033
1867	1,487,587	954,920
1868		

—Conjoint—		
Fiscal year.	Earnings.	Expenses.
1864	\$4,247,992	\$2,425,929
1865	4,061,296	2,732,879
1866	3,258,980	2,227,050
1867	3,382,474	2,183,354
1868	2,962,014	2,128,165

The dividends paid in August and February were at the rate of 7 per cent. annually. The two previous years gave to the C., C. & C. R. R. 8 per cent.; and to the Bellefontaine 6 per cent. The total cost of the railroad and its equipments is \$11,936,146.30, or \$30,605 per mile. The following is the general balance sheet of the company, as of January 1, 1869:

Capital stock	\$11,620,000
Less held by Co.	1,159,100
C. C. & C. R. R. bonds (\$25,000 falling due yearly)	400,000 00
B. & Indiana R. R. 1st mortgage bonds	\$791,000
Less held by Co.	51,000
B. & Indiana R. R. 2nd mortgage bonds	16,000 00
B. & Indiana R. R., income bonds	87,000 00
B. & Indiana R. R., bonds past due	2,000 00
Indianapolis, Pittsburg & Cleveland R. R., 1st mort. bonds	379,000 00
Indianapolis, Pittsburg & Cleveland R. R., 2nd mort. bonds	\$347,000 00
Less held by Co.	6,000 00
Dividend No. 2, payable Feb. 1, 1869	365,844 50
Surplus fund	242,602 20

Per contra: the charges as stated:

Cost of road and equipments	\$11,936,146 30
Materials on hand	455,314 19
Cash	402,040 47
Cash assets	137,416 02
Other assets—S. & H. Valley R. R. bonds	\$2,000 00
Other assets—Real estate	30,691 61
Other assets—Wood lands	46,701 04
Other assets—Stone quarry	4,915 46
Other assets—Bills receivable	18,646 31
Other assets—Insurance scrip	475 00
Total	\$13,034,346 70

The report of the Board says: The results of the consolidation have been satisfactory, each part of the railway showing its fair per centage of earnings in proportion to the capital represented. It is the opinion of the Board that the mutual benefits to be derived from one organization between Lake Erie and the Eastern railroad connections at Cleveland, and the rich agricultural country traversed by the Western connections in Indiana, Illinois, and west of the Mississippi will increase yearly. The Company have also aided in the construction of the Indianapolis and St. Louis R. R., and on its completion it is expected that that road will be of essential advantage to the C., C. C. & Ind. R. R.—*Fin. Chron.*

COMMISSIONER OF RAILROADS AND TELEGRAPHS FOR OHIO.—The labors of General WRIGHT, during the past two years, as the Commissioner of Railroads and Telegraphs for the State of Ohio, has been of great value, not only to the public, but to the railroads. For the purpose of rendering the office more efficient, the Commissioner, in a circular dated May 20, very correctly remarks:

"It is important that the chartered rights of each company be known, or made accessible to any citizen desiring the information. I have, therefore, to request that every company prepare, and send me as soon as possible, a copy of its charter in full. Where sales, reorganizations, consolidations or leases have been made, give sufficient data to show the origin of the present organization and the rights claimed under it. An accurate and complete record of this kind will be of great advantage to every company. It is evident from the history of the past that legislation on the subject of corporations will not cease until a more perfect system is adopted; hence it is the duty and interest of every railroad and telegraph company to furnish all the data necessary for a full understanding of the subject, in order that the public may be correctly informed on all questions involving so important an interest, that injudicious legislation may be avoided.

"As requested last year, I again invite your suggestions on the subject of railroad legislation, and will be glad to secure your cooperation in such amendments to the present laws, or the enactment of such new ones as you may deem of public advantage."

Railroad Elections.

C., H. D. R. R.—The Board of Directors of the Cincinnati, Hamilton & Dayton Railroad Company, elected on the 18th inst., met for organization and re-elected all the old officers as follows: S. S. L'Hommedieu, President; John W. Ellis, Vice President; F. H. Short, Secretary and Treasurer; Daniel McLaren, General Superintendent; Lewis Williams, Assistant Superintendent Cincinnati, Hamilton & Dayton, and Cincinnati, Richmond & Chicago Railroad; John C. Weller, Assistant Superintendent Dayton & Michigan Railroad; Samuel Stevenson, General Ticket Agent; Lafayette Devenny, General Freight Agent; Stanley Matthews, Attorney.

CINCINNATI AND MACKINAW RAILROAD LINE.—The following persons have been chosen Directors of the Northern Central Michigan Railroad: W. J. Baxter of Jonesville; J. Riblett, Litchfield, George H. French, Homer; S. V. Irwin, Wm. V. Morrison, Stephen B. Crawford, Albion; E. Landon, Springport; A. N. Hart, Lansing; G. W. Hunt, Windsor; James Gallery, Eaton Rapids. This road is the Michigan part of the Cincinnati and Mackinaw line. It is to extend from Amboy, near the State line, through Janesville, Albion, Eaton Rapids and Lansing. There has been expended in grading the line under an old charter \$115,000, and now the towns on the line are subscribing liberally to secure its completion.

CLEVELAND, June 2.—At a meeting of the stockholders of the Lake Shore and Michigan Southern Railroad, here to-day, the following were unanimously elected as Directors: Legrand Lockwood, Horace T. Clarke, and James H. Banker, of New York; William Williams, of Buffalo; E. B. Phillips and Albert Keep, of Chicago; J. H. Devere, H. B. Payne, George B. Ely, and George H. Wade, of Cleveland; J. W. Wetman, William L. Scott, and Milton Courtright of Erie, Pennsylvania.

At a meeting of the directors of the Lake Shore and Michigan Southern Railway, this evening, the following officers were elected: President, E. B. Phillips; first Vice President, J. H. Devereux; second Vice President, William Williams; Treasurer, Legrand Lockwood; Assistant Treasurer and Secretary, George B. Ely.

COLUMBUS, June 2.—At a meeting of the stockholders of the Columbus, Chicago, and Indiana Central Railway Company, to-day, the following named gentlemen were elected Directors: William D. Thompson, F. D. Fowler, W. D. Judson, Amos Tenny, Jas. W. Elwell and Jas. A. Roosevelt, of New York; Jos. T. Thomas, of Philadelphia; Jarvis Williams, of Boston; B. E. Smith, Wm. Dennison, John Gardner, James Alexander and Theodore Comstock, of Ohio; Jno. S. Newman and J. N. Converse, of Indiana. The Directors elected the following officers: B. E. Smith, President; W. D. Judson, Assistant President; Gordon Moodie, Secretary; James Alexander, Treasurer.

GRAND RAPIDS AND LAKE SHORE RAILROAD.—A contract for grading, grubbing and placing ties ready for the iron for a distance of fourteen and a quarter miles on the Grand Rapids & Lake Shore Railroad, from Muskegon to Nuncia, has been let to a party in Buffalo for the sum of \$80,000.

Land and Water Carriage.

There are those who believe that railroads will soon put an end to inland transportation by water. The growth of the railroad system in this country has been marvelous, and has had a great influence in the reduction of charges for the movement of produce. But so far, in the neighborhood of all long water routes, railroads have acted as feeders to them, and have concentrated the traffic of large regions at those central points where the iron road has touched the lake or the river. It has been impossible for the railway to do its business as cheaply as it can be done by water. In the very nature of things the balance is largely in favor of the water route. The difference in the rates charged by either route has, however, been lessening, and it is but a few days since we read in a Chicago paper, that the demand for cars on that particular day for the carriage of grain was in excess of the supply, although the lake charges to Buffalo were but five cents a bushel. It is claimed by the advocates of cheap railway transportation, that this state of things will be the rule before many years, and that the railroad will soon monopolize the business. At this time wheat is brought by rail from Chicago to New York for 30 cents a bushel, which is actually less than the cost by canal, 32½ cents; but of this last sum 20 cents only are freight and canal tolls. The rest goes for storage, insurance, commissions, elevators, &c. The railroads have carried wheat in the winter at even a less charge than 30 cents, but then and now the charge is no evidence of the cost, and no proof that profit is made. In fact, the charge is part of the "cut-throat" competition of four or five through lines, and while profitable to the grain producer, is ruinous to the companies; which, in the task of distributing breadstuffs to points on the long routes, put their charges at amply remunerative figures.

It may be interesting to compare the charges made by these two methods of transportation, in the view of showing their approach or divergence. The cost of transferring a bushel of grain from the Mississippi River by rail to Chicago, a distance of two hundred miles, is precisely the cost of transportation from Chicago to New York by water, the distance being some fifteen hundred miles. This is a very wide difference, but the disproportion is reduced when the cargo is carried a greater distance by rail, for the cost of handling is the same by the land route whether the car moves one hundred or five hundred miles. And one of the heaviest burdens to which grain is subjected is the charge for handling it at the several places of shipment. A bushel of corn is carried from Chicago via Oswego for 17½ cents, or say 18 cents, including the local charge at Oswego. The railway freight for a barrel of flour, which weighs nearly as much as four bushels of corn, is 58 cents from Oswego to New York, or 50 cents to Albany. The cost of transporting the same weight of corn from Oswego to New York is 32 cents by water. From St. Louis to New Orleans the freight in flour is 40 cents, for a distance of twelve hundred miles, a charge that must be reduced if the Mississippi is to be a rival of the great Northern Water Route from Chicago.

When we consider the enormous extent of the transportation business that reaches New York from the interior, it is difficult to realize how and where the same business could be done if it was transacted on land. Every barge and every canal boat are floating store-

houses. They can move at will about the harbor and transfer their cargo to a ship in the East or North River, or at a Jersey dock, or lying moored in the stream. They are limited to no yard or to no particular pier. The freight train is, however, tied down to an iron track. It moves from one place to another only with difficulty and at great expenditure of labor and time. The full train has but little greater capacity than that of a single canal boat. Twenty cars that carry 10,000 bushels are almost matched by the single boat which conveys 8,000. Trains must be limited in frequency and can not be allowed to run too closely to each other. Delays, minor accidents, the heating of a journal, track repairing, would interfere with that frequent succession of trains which would be necessary to transport the enormous tonnage offering, and they would be very sure to bring on inextricable confusion.

But commerce will seek the cheapest route, and whatever tends to remove burthens and lessen charges offers the strongest inducement to which commerce will respond. Slow freight trains can carry grain and flour cheaper than fast trains. Charges for handling must be reduced. Expenses on the water routes must be cut down, and the products of the great West must be distributed through the East at a cheaper rate than now. The competition of rival routes does this effectually, as the present charges from Chicago to New York, above quoted, show. Competition is more effective than any labored argument that can be made based upon any array of statistics, however imposing.

One error committed by the advocates of new routes from the West to the seaboard is in supposing that the bulk of the breadstuffs from the West go to European and other foreign ports. Hence the great desire to reach the sea, whether by the St. Lawrence or the Mississippi. The trade with Europe really absorbs but a small fraction of the immense product of the Western grain fields. The West Indies and South America require large quantities. But the greater part is consumed at home, and is distributed all over the seaboard States, in the large cities, in the manufacturing towns, and indeed in the smallest villages. For this distribution there is need of the railroad, and very quietly but regularly it does this work, conveying to all the multitudinous stations and depots the products which have found their way to the seaboard and to the centers from which distribution is made. In this distribution, as we remarked above, the railroad which has transported breadstuffs over long distances at losing rates now compensates itself by the amplest tariff that its managers have the face to impose, and they give abundant proof that carriage by water is cheaper than by land.—*Fin. Chron.*

NOMINAL HORSE-POWER OF BOILERS.—Boilers, especially those of stationary engines, are sometimes stated to be of so many horse-power. This is, in fact, a conventional mode of describing the dimensions of the boiler, according to an arbitrary rule. The rules employed for estimating the nominal horse-power of boilers have been various, and most of them vague and definite. The following is a perfectly definite rule, founded on the best ordinary practice:—Take a mean proportional between the area of fire-grate in square feet and the area of effective heating-surface in square yards. The nominal horse-power of the boiler is generally much less than the indicated horse-power of the engine, to which it bears no fixed proportion.

Durability and Tests of Rails.

RAILWAY MANAGERS may as well understand first as last that it depends upon themselves whether or not they shall get good wearing results from rails, whether made of steel or iron; that the first thing for them to do is to pay a good price for a good article; that they must take a guarantee from the maker or seller that the rails shall stand certain experimental tests, well understood in the shops, for certain characteristics, and a like guarantee for wear in the track; that nothing must be taken for granted, no matter how high and strong is the manufacturer's reputation, and that rigid inspection and perpetual vigilance only will secure the great desideratum. There is no safety or certainty outside of this vigilance and the holding of the manufacturer responsible for the wearing results. It is not much to the credit of the railway managers as a class that this country has been so overloaded with rails of comparatively worthless character. If the rails of one manufacturer failed, the next lot was bought from another, and thus buying rails was a good deal like buying lottery tickets—one prize, perhaps, to a thousand or so of blanks. No competent inspection, no tests, and no guarantee were required from the manufacturers, but the whole matter was managed in the most unbusinesslike way of trusting to chance. Some few of the best managers long ago felt compelled to strike out a new line of conduct in this matter, and though they met with opposition, and very little success at first, they by perseverance finally did succeed in getting what they paid for—a good wearing rail; this success was mainly owing to the responsibility to which the manufacturer was held for the wearing results, and thus it will continue to be, no matter whether the rails are made of steel or iron. It was first thought, from the remarkable success of the earlier steel rails, that the rail millennium had arrived, and that managers were all to be relieved from trouble on this score; but it was soon proved that certain makers of steel rails were no more to be depended upon than were the iron rail-makers. In fact, some of the very practical managers of New England and elsewhere were induced to buy steel rails at a low price, upon the reputation that the best steel rails had built up, and they soon found the cheap steel rails as inefficient and dangerous, to say the least, as the old iron rails. Managers are getting over this folly now, and, with the aid of inspection, test, and guarantee for a term of years, they bid fair to insure a very decided improvement for the future. There are, but few railway-shops now in which there are not rail tests instituted, some of them perhaps crude and rough, but all valuable, all tending to secure certain valuable results. On the Philadelphia, Wilmington, and Baltimore Railway, where there are from twenty-five to thirty miles of steel rails in use, with remarkably favorable results, the most rigid inspection is insisted upon. In a letter written in December last, Mr. Isaac Hinckley, President of the company, gives a few pertinent hints as to the methods of use, and refers to the practice on that road. He says:—

"The first steel rail imported has already worn out sixteen (16) iron rails, and we have not now any reason to suppose that the later invoices are of inferior quality. But there is great fear on my part, that railway companies will themselves tempt steel-makers to send a poor article, by buying the cheapest—first cost only considered—as they did with

the iron-masters. It rests with railway men to keep steel rails good by buying no poor ones. We try steel with a chisel for *hardness*, with the trip-hammer for *toughness*, and for *strength* with the 2,240-lb drop, 15 feet, the rail resting on supports three feet apart. Rigid inspection can only save us. Having passed inspection, make no holes, or at all events, no *punched* holes in the rails. Punching is bad enough for iron, but death to steel."

Mr. Hinckley is using the new Reeves joint for steel rails. This joint does not require any punching or drilling of holes in the rails, and, therefore, there is less danger of fractures than by the common method of fastening.—*Am. Railway times.*

The Public Debt.

WASHINGTON, June 2.—The following is a recapitulation of the Public Debt statement, as it appeared on the 1st of June, 1869:

DEBT BEARING INTEREST IN COIN.

Bonds at 5 per cent., issued before March 3, 1864.	\$27,022,000 00
Bonds at 5 per cent. (Tentforties) issued under act of March 3, 1864.	194,567,300 00
Bonds of 1881, at 6 per cent	283,677,400 00
Five-twenty Bonds, at 6 per cent.	1,602,617,400 00

Amount outstanding.	\$2,107,882,100 00
Interest.	38,476,562 00

DEBT BEARING INTEREST IN LAWFUL MONEY.

Certificates, 3 per cent interest.	\$53,075,000 00
Navy Pension Fund, 6 per cent. interest.	14,000,000 00

Amount outstanding.	\$67,075,000 00
Interest.	1,236,500 00

DEBT BEARING NO INTEREST.

Demand and Legal-tender Notes.	\$356,059,244 00
Postal and Fractional Currency.	33,452,323 40
Certificates of gold deposited.	23,340,720 00

Amount outstanding.	\$412,852,287 40
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DEBT ON WHICH INTEREST HAS CEASED SINCE MATURITY.

Amount outstanding.	\$5,421,863 64
Interest.	726,339 95

TOTAL DEBT.

Principal outstanding.	\$2,590,231,251 04
In't account \$41,024,843 06	
Less amount interest paid in advance 585,441 00—	40,439,402 06

Total debt, principal and interest.	\$2,633,670,633 10
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AMOUNT IN THE TREASURY.

Coin.	\$81,839,449 49
Coin on deposit.	23,340,720 00
Currency ...	19,984,555 01
Sink'g F'nd, in bonds bear'g int., and acc'd int. thereon.	3,093,295 42— 128,258,039 98

Amount of Public Debt, less cash and Sinking Fund in the Treasury.	\$2,505,412,613 12
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Amount of Public Debt, less cash and Sinking Fund in Treasury on 1st ult. ...	\$2,518,795,391 09
Decrease in Pub. Debt during past month.	13,382,778 97
Decrease since March 1, 1869.	20,050,646 92

The warrants issued by the Treasury Department during May, to meet the requirements of the Government, amounted to, in round numbers, the following sums:

Civil, miscellaneous, and foreign intercourse.	\$3,534,600 00
Interest on Public Debt.	19,831,000 00
War Department.	4,180,000 00
Navy Department.	1,163,000 00
Interior Dep't, Territory and Indians.	1,638,000 00

Total.	\$30,366,600 00
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The warrants issued for the redemption of the Public Debt are not included in the above.

The Coals of Russia.

BY M. GRAND.

Anthracite.—The most important field of anthracite is in the country of the Don Kosacks, where it is very abundant, but, being worked by the wandering population of this region, it is not fully developed. It covers a surface of several hundred square kilometres. The best varieties occur at thirty verst (thirty-two kilometres, twenty miles) from Novocherkassk, near the Grooshevka river, in the carboniferous formation, forming beds about 180 metre thick (six feet). More than 98,000 tons are got annually from this field, and explorations show that there is a mass of 57,000,000 tons. The anthracite of Grooshevka contains ninety-six per cent of carbon.

Coal.—The collieries of Russia have only been worked during the last twenty-five years, and, so far at least, with indifferent results. The coal formation occupies a considerable surface in Russia, but contains few beds of real fuel, owing to the numerous upheavals that have disturbed it before the coal period. In the government of Tekaterinoslaf (Bakhmoot district), and in the neighborhood of Moscow, are a few beds that may, after a time, be regularly worked. In the Caucasus, coal is worked on the banks of the Kooban river. In Poland a few beds occur, which are worked to supply fuel for metallurgy. Recently some new coal mines have been discovered near the Oural Mountains (Perm government), on the banks of the Petchora, in the Altai, and in the Kirzbees Steppe of Siberia. Since 1852, coal mines have been worked also in Eastern Siberia. The coals of Southern Russia are similar in their chemical composition to the coals and lignites of modern formations, whereas by their geological age they generally come before the coal of our western regions; they are nevertheless a very good fuel. To this class belong the collieries of Alexandrovsk (Iekaterinoslaf government, Bakhmoot district), worked since 1839. The coal is reached at a depth of sixty-four metres=210 ft.; its thickness is 2.13 metres=7 ft.; its extent is over 18kilos=eleven miles. At 1920 metres=63 ft. below this first bed there is another, 1.67 metre=8 ft. 8 in. thick. This coal gives sixty-five per cent of coke. The annual produce is about 13,000 tons, costing 160,000f.=£6,400, or about ten shillings per ton. The number of men employed does not

exceed 200. The following table shows that the mean annual production is 163,720 tons, representing a value of 2,000,000. = £80 000.

COAL RAISED IN RUSSIA FROM 1860 TO 1863.
(From official documents.)

Localities	Kilogrammes.			
	1860.	1861.	1862.	1863.
Moscow coal field.....	10,335	18,579	12,116	21,593
Donetz ".....	98,387	167,070	115,437	105,948
Qural ".....	6,881	7,244	4,221	11,878
Altai ".....	900	3,784	2,384	3,719
Kirghess Steppe coal field	3,031	2,720	3,887	5,949
Kooban coal field.....	"	3,286	2,784	2,412
Coast of East Siberia.....	"	"	4,985	8,477

*119,334 202,683 146,415 159,985

Peat.—Peat beds are found chiefly in the following regions:

Near the Gulf of Finland. Nineteen and a half tons are raised per day by steam power.

In the government of Moscow, at Toobinsk, 26kilos = sixteen miles distant from the town; 39,000 cubic metres = 50,700 cubic yards raised annually, and consumed in the neighboring works.

In the district of Bogorodsk. Annual production, 19,000 cubic metres = 24,700 yards cube.

Moloshnikof.—Production, 9,712 cubic metres = 12,626 yards cube.

And Medvidivo, 21 kilos = thirteen miles from Moscow. Production, 14,568 cubic metres = 18,940 yards cube, costing 3.70f. at the works (about 2s.3d. per yard cube).

In the government of Kharkof, Adreievka. Production, 38,848 cubic metres = 50,502 yards cube, supplying a sugar factory.

In Livonia, Marzenhof (Venden district). Production 5,827 cubic metres = 7,575 yards cube.

In the government of Kovno are a few beds of peat.

Peat beds are abundant in Russia, owing to the flat nature of the soil. Peat does not appear to be used in Russia for purposes of metallurgy; but coke is beginning to be used in metal manufacture. However, most of the iron ores are smelted by charcoal, made usually from fir, pine, larch and birch.

* In round numbers, 120, 200, 146, and 160 tons. (The French ton is nearly equal to the English ton of 20 cwt).

GRACE GREENWOOD has sold her "Little Pilgrim" to Alfred L. Sewell & Co., Publishers of "THE LITTLE CORPORAL," of Chicago. The *Pilgrim* has been published as a children's magazine for over fifteen years, and has been a popular juvenile, but will now stop "pilgrimage" on his own account, and hereafter be an "aide" to the conquering Western Napoleon, *THE LITTLE CORPORAL*, the well deserved circulation of which was even before this addition larger than that of any other juvenile magazine in the world. Grace Greenwood still writes for it. The July number begins a new volume, and we advise our friends to send on to the publishers, at once, one dollar, which is the price for one year, and give their children this unique, original magazine, which has no superior anywhere. Those who subscribe during June, will receive the June number extra.

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This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF FORMS.	PRICES.	SIZE NO. OF FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 256	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms and also with working plans, if desired.

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J. M. LUNT, Sup't, C. & I. C. R. R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C. H. & D. R. R., Cincinnati.
J. H. WELLER, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton
O. W. SMITH, Gen. Ft. Agt. C. & I. C. R. E., Indianapolis
Aug. 2, 1886.]

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Without Detention arriving in New York 3:15 p.m. next day, Sunday

2 Through Lightning Express Trains for New York, Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6:15am.....	7:10pm
" Dayton.....	8:35 ".....	9:30 "
Arrive West Salem.....	1:50pm.....	4:53am
" Leavittsburg.....	4:55 ".....	7:35 "
" Meadville.....	7:35 ".....	11:10 "
" Susquehanna.....	7:48am.....	11:29pm
" Paterson.....	2:25pm.....	6:03am
" New York.....	3:15 ".....	7:00 "
" Boston.....	5:45am.....	4:45pm

Sleeping Coaches on Night Trains the entire distance between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday night instead of Saturday night. All other Trains leave Daily, Sundays excepted.

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—OF—

NEW-JERSEY.



On and after Monday, May 21, 1886, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a.m. and 18:00 p.m. On Sundays, one Express Train at 8:40 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change of cars to Chicago or Cincinnati, and but two to St. Louis. Passengers from the East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m., Pittsburg 12 night

9:00 a.m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 8:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN, from the West, leaving Pittsburg at 4:30 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at 7:09 a.m. Through cars from Pittsburg to New York.

9:05 a.m.—EAST LINE, from the West, leaving Pittsburg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:52 a.m.; Allentown at 12:02 p.m.; Easton at 1:10 p.m. Through cars from Pittsburg to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing Reading at 10:40 a.m.; Allentown 12:30 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

2:10 p.m.—FAST MAIL, from the West, leaving Pittsburg at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 10:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive.
St. Louis & Chicago Ex.....	7:00 A. M.	9:10 A. M.
Springfield & St. Joseph Ex.....	12:00 P. M.	4:30 P. M.
St. Louis & Chicago Ex.....	4:55 P. M.	12:15 A. M.

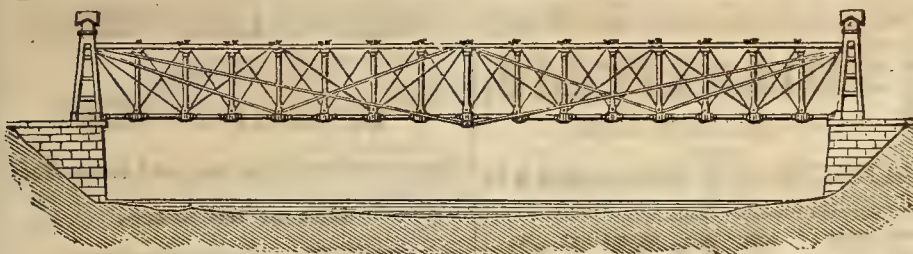
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5:15 P. M.	5:05 A. M.
Harrison Accommodation.....	10:10 A. M.	2:25 P. M.

Through Tickets can be obtained at the Burnet House, Spencer House and Gibson House offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

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	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Rich-		
mond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

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TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc'
Leave CINCINNATI, 7 40 a.m.		10 10 p.m.	4 00 p.m.
Arrive SEYMOUR, 12 00 m.		2 00 a.m.	8 10 "
Leave " 12 20 p.m.		2 10 "	
Arrive VINCENNES, 5 15 "		6 35 "	
Leave " 5 20 "		6 40 "	
Arrive ODIN, 9 35 "		10 30 "	
Leave " 9 45 "		10 40 "	6 30 a.m.
Leave SANDOVAL, 9 55 "		10 50 "	6 40 "
Arrive ST. LOUIS, 1 00 "		1 30 p.m.	9 40 "
Trains Arr. at Cin'ti,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine street, Corner Front and Broadway and at Depot, Foot 5 Mill Street.

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And all Rail and River Towns and Cities in the West, North west and South-west.

5 THROUGH TRAINS DAILY,

(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express...	7 00 am	10 30 pm
Indianapolis and Cairo Express.....	6 30 am	2 30 am
Cairo and St. Louis Express.....	3 00 pm	4 08 pm
Springfield, Quincy and St. Joseph Express.....	3 00 pm	4 08 pm
Chicago Lightning Express.....	6 50 pm	11 30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11 00 pm	6 15 am

No change of cars between Cincinnati, St. Louis and Chicago.

Elegant Sleeping Cars on all night trains.

ACCOMMODATION TRAINS.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10 10 am	8 35 am
Harrison.....	5 30 pm	9 15 am
Lawrenceburg.....	4 45 pm	2 10 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & O. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

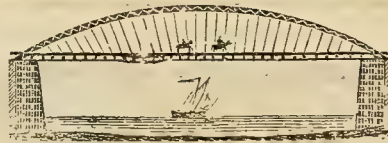
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4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. (Express); 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West, 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS.—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave at Wilmington for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD,
T. WRIGHTSON. } Editors

CINCINNATI:
THURSDAY, JUNE 10, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
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“ “ six months.....	12 00
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“ “ per month.....	10 00
“ “ six months.....	40 00
“ “ per annum.....	80 00
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“ “ per month.....	25 00
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ERIE, AND ATLANTIC & GREAT WESTERN.
Morning Express leaves 6:00 A. M.; arrives in New York 5:15 P. M., next day.
Fast Express leaves 9:15 P. M.; arrives in New York 7:00 A. M. second morning.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:30 P. M.
Express Mail.....	9:45 A. M.	3:15 P. M.
Fast Line.....	4:00 P. M.	11:00 P. M.
Lightning Express.....	10:00 P. M.	6:00 P. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillsboro Accommodation.....	3:40 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:55 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.).....	6:00 A. M.	5:20 P. M.
do do.....	9:15 P. M.	6:00 A. M.
Toledo, Detroit & Canada.....	6:15 A. M.	10:25 P. M.
do do.....	7:00 P. M.	7:25 A. M.
Lima, Ft. Wayne & Chicago.....	6:15 A. M.	10:25 P. M.
do do.....	2:30 P. M.	6:40 P. M.
do do.....	7:00 P. M.	7:25 A. M.
Sandusky, Cleveland & Buffalo.....	6:15 A. M.	6:40 P. M.
do do.....	7:00 P. M.	10:20 A. M.
Connersville & Indianapolis.....	6:15 A. M.	10:25 P. M.
do do.....	2:30 P. M.	4:15 P. M.
Connersville & Newcastle.....	6:00 P. M.	10:20 A. M.
Hamilton, Eaton & Richmond.....	6:15 A. M.	10:25 P. M.
do do.....	5:00 P. M.	10:26 A. M.
Hamilton Accommodation.....	9:30 A. M.	8:05 A. M.
do do.....	6:00 P. M.	6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

Connersville, Rushville and Indianapolis Mail.....	6:15 A. M.	10:20 P. M.
St. Louis and Indianapolis Exp.....	2:30 P. M.	4:15 P. M.
Cambridge City and Newcastle.....	6:15 A. M.	10:00 A. M.
Cambridge City and Newcastle.....	6:00 P. M.	10:25 P. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	6:00 A. M.
New York Express.....	10:00 P. M.	5:00 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	8:45 A. M.
Springfield Express.....	3:40 P. M.	3:48 P. M.
St. Louis Lightning Express.....	11:00 P. M.	1:15 A. M.
Lawrenceburg Accommodation.....	10:00 A. M.	2:31 P. M.
do do.....	4:45 P. M.	8:10 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	3:48 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:00 A. M.
Harrison Accommodation.....	6:05 P. M.	6:42 A. M.
Chicago and Cambridge City.....	6:30 P. M.	10:15 P. M.

OHIO AND MISSISSIPPI.

For St. Louis, Cairo.....	7:00 A. M.	6:00 A. M.
Evansville and Louisville.....	5:10 P. M.	9:40 P. M.
do do.....	10:15 P. M.	11:15 P. M.

Only Sunday trains are 5:10 P. M., leaving, and 6 A. M. arriving.

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

Condition and Needs of American Labor.

There is a great discussion going on in this country, relative to the condition and improvement of Working Men. It is in some respects, a healthy sign. If we look upon mankind, in regard to the standard of wealth, we find but few who are "rich;" a larger number, but not very large, who are sufficiently wealthy to get good education, and possess a competency; while the majority live entirely on their labor, and possess the single advantage in a free country, of having the opportunity with good wages and cheap lands, of laying up enough to become independent. This ultimate competency is the desire and the hope of young Americans, and they have a fair prospect of success. But, if we take the condition of society on any one day, we shall find, that the majority of all the men in society are dependent on labor, and we shall find also, that the condition of the laborer is a true test in any country, of the character of the government and the condition of society generally. Labor is cheapest in Russia, dearest in the United States. Russia is a despotic government, and the people ignorant—the United States a free government, and the people intelligent. The high price of labor in the United States is the main reason of the great immigration, which is constantly coming into this country. A few come from political causes, and many for cheap lands; but, the reason with the great mass of those who come over, is the high price of labor. Now, whatever disturbs this state of things, or reduces the price of labor in this country, will assuredly injure the condition of the laborer on one hand, and so far as it does injure his condition, will diminish immigration. There are two movements going on in this country in regard to labor, which if successful, must result in evil to the laborer. One is the "eight hour" movement, and the other the "Free trade" movement.

We don't say at all what, if we had perfect wisdom to know, is the natural or proper length of a working day, nor do we say that laborers have not a perfect right to regulate the length of time they will work. We don't know, but six hours is the proper length of a working day; and it is just as right and proper for workmen to stop at six hours, as it is at eight. What we say is this, that when all the departments of laboring life—manufacturers, mechanics, workshops, laborers, all have, by usage, been accustomed to the rule of ten hours; and when all prices of labor, skilled and unskilled, have been fixed for ten hours, that to reduce the time to eight hours, (which is a loss of one-fifth the former time) is—1. To reduce the totality of work done, one-fifth, more especially would this be the case where the real labor is performed by machinery; and—2. To compel the employer

to pay for ten hours labor, when he gets but eight; or to raise the price of his goods to correspond with this increase of cost, 20 per cent. The consumers are at last the regulators of all prices, and it is perfectly certain, that the cost of production can not be enhanced 20 per cent, without greatly diminishing the amount of consumption, and therefore, the number of laborers employed.

It should be further observed, as above stated, that those who live by their labor constitute the very great majority of the human family; hence it is the laboring portion of mankind who are the principal consumers of the products of labor. Now, let us ask what will be the improvement in the financial condition of the laborer, if he is successful in obtaining the same compensation for eight hours labor that he has heretofore had for ten—provided, all that he consumes cost him 20 per cent. more! Hence, we say, that such a movement is necessarily disastrous to the laborer. If he chooses to work but eight hours, he can do it. Nobody can compel him to labor; but if he reduces his labor one-fifth, his wages will certainly be reduced that amount, or large numbers of employers must quit their business. Either result will be disastrous.

The second movement is that of the Free traders, who would take off the tariff from foreign goods, and thus reduce American manufacturers to compete with the semi-pauper labor of Europe, without protection; or to reduce the wages of the American laborer to that of Europe; or if that can not be done, to cease manufacturing. Either result will be disastrous to the American laborer.

The tariff produces in round numbers one hundred and sixty millions of dollars per annum. Two-thirds of this great sum is raised from articles which come in competition with American manufactures. By this tariff, an American manufacturer is enabled to pay the workmen higher prices than they could get in Europe; and by getting higher prices, the American workman is enabled to live better, which is at last the great benefit which American workmen have. It is very well to reason against protecting American manufactures, and making capitalists, "monopolists," etc. This is well, as far as it goes; but it does not touch the real point. It is not the capitalist who is protected, but the workmen. Let us see. We take from Mr. Welles' Report on the Revenue, the following prices paid the laborers in skilled work, in the United States and England, premising that the prices in France, Belgium, and Russia, are much lower. The prices in England are the highest in Europe:

I. MANUFACTURES OF WOOL.

	United States	(in gold) England.
Carders.....	\$4 37.....	\$3.85
Spinners (males).....	8.23.....	6.05
Weavers.....	5 73.....	4.67

The United States over England 30 per cent.

2. IRON FOUNDING.

	United States.	England.
Moulders.....	\$11.52.....	\$8.00
Machinists.....	11.54.....	7.00
Engineers.....	11.41.....	7.50
Laborers.....	7.03.....	4.50
United States over England, 55 per cent.		

3. IRON MANUFACTURES.

	Weekly wages of Puddlers.
United States (gold).....	\$16.54
England.....	8.75
France.....	8.00
United States over England and France, 100 per cent.	

4. UNSKILLED LABOR.

In the United States (gold).....	weekly \$6.81
" England ".....	" 4.50
United States over England, 50 per cent	

These details are enough to understand the matter. If we go into an examination of all kinds of labor (skilled and unskilled), we shall find the American laborer gets an *average* of just about 50 per cent. over the English laborer, and still more over the laborers in other parts of Europe.

If, now, we look into the *condition* of laborers in Europe and America, we find the English laborer can not live cheaper than the American; but, the general and important fact is, that the American laborer *lives in a better condition*. He can afford things which the European can not. He is more independent, because he gets more. If then anything happens, by which the American manufacturer, or master mechanics *can not* pay such high prices, or is obliged to stop business and dismiss workmen, that is most evidently and palpably a disaster to American workmen. If, therefore, the American tariff, which now averages 47 per cent, were taken off (which Free traders would do), or even reduced to 25 per cent, which it was in 1850, it would be a great disaster to laborers; because the manufacturers could not compete in many branches, with Europe. The factories would languish or stop, and the workmen be compelled to live poorer, or to seek other employments. Hence, we say, that both the movements recently set on foot, if successful, *must* be disastrous to working men.

NEW MUSIC—Lovers of good music will be delighted with "Sing to me Robin," a pretty Sentimental Song by Frank Howard, and "Auf Wiedersehen," a very sweet and touching song by H. J. Schonacher. Billy Emerson furnishes for the Minstrelsy Opera, a good song of its class entitled "Oh! How is that for High?" We guarantee if our fair readers sing it as effectively as Billy renders it, they will receive encomiums. The "Blue Cross Quadrille" by James W. Long, and "Home to which my Heart returns," a reverie by George Gill; the above are all among the new Music issued this week by John Church & Co.

Cincinnati Southern Railway.

The question of the ultimate Southern terminus of the projected railway from our city having been finally settled in favor of Chattanooga, by the unanimous vote of the City Council, it becomes the next duty of our citizens to confirm their act by a vote on the 26th of the present month. In our last week's issue we endeavored to show some of the advantages that must necessarily accrue to this city by a direct connection between the Southern system of railroads and the roads north of the Ohio river. We regard it such a self-evident proposition that whatever will increase the traffic and business of the City is an advantage to the whole community, to the laborer, the mechanic, the manufacturer, the merchant, the capitalist, and the owner of real estate, that we deem it unnecessary to specifically point out the benefits to each. It is palpable that the manufacturer must sell his wares, and the merchant his goods in a profitable market, or he can not afford to employ and pay the mechanic and the laborer. This is equally true of the capitalist and the land owner. Extension of the area of market with its legitimate increase of business, must affect all interests, more especially those that create the wealth and prosperity of a community—the active, energetic labor and skill of all classes. Hence, in our remarks we have been content to show what will be for the general good.

It seems strange, that these two extensive systems of railroads, apparently constructed by special design; (as will readily be seen by consulting any good railroad map) to be connected by a trunk line through Kentucky, at Cincinnati, should have been so long kept asunder. Nature, undoubtedly has had much to do, especially at the South, with this very peculiar feature of their railroad system. By the construction of the great Southern trunk line from Cincinnati, almost every railroad in the South will become a feeder to its traffic, and like water poured into a funnel, be concentrated in one avenue. All the lines from the South Atlantic coast point in a North-west direction; those of the Gulf, due North; while the roads starting from the banks of the Mississippi have a North-east course. It seems as if the ideas and project of President W. H. HARRISON, DR. DANIEL DRAKE, and others of Ohio, together with Gen. HAYNES, of South Carolina, and the leading spirits of their day, promulgated thirty-five years ago in the very infancy of the railroad era, of a connection between the South and the valley of the Ohio at Cincinnati, had been never lost sight of, but ever kept in view in the construction of the entire railroad system of the South.

When the project of uniting the Ohio valley with the Southern States by a railroad was first contemplated, in 1835, Cincinnati was

but a small hamlet compared with her present dimensions. Her total population was but 35,000; while the annual value of her manufactures was carefully computed at \$6,000,000, employing only 55 steam engines. While the reasons that existed for its speedy construction at *that time* still remain the same and have increased in proportion with every rolling year, the moral and political obstacles in the way have disappeared, and there is nothing now but the difficulties of nature to overcome.

The recent movement made by Cincinnati, in reference to the construction of this great railroad, or as BEN DRAKE, in 1835, called it, "the most magnificent and important public work that has yet been projected in our country," (a remark actually true then, if not now,) has awakened an interest in our city and its workshops and store houses, throughout the whole South, that must inevitably attract, upon the construction of the road, an enormous amount of traffic.

Already large delegations from many prominent cities have been to visit us, and they have gone home and reported what they saw and heard. Many of the gentlemen were among the shrewdest observers and ablest business men of their respective communities, and it is a matter of deep interest to our citizens to know what was their report. Mr. JNO. B. LAPITTE, who will be remembered by many of our citizens as a polished, gentlemanly merchant of Charleston, in his report to the Mayor of that city, thus alludes to this proposed railroad connection with Cincinnati, and the advantages of its construction to our city:

"Our efforts to form this connection have been stimulated by a desire to reap the advantages to be derived from the trade in their agricultural products; and but few persons in our community have any conception of the extent of their manufacturing industry. Cincinnati has a population of about 300,000 souls, and is essentially a manufacturing city. There is scarcely a single article which we now purchase from the Northern and Eastern States, excepting cotton fabrics, which we can not also obtain from Cincinnati. Their interior location, with the abundance of all the raw materials used, gives them a very decided advantage over the Northern and Eastern cities in most of the branches of manufacture. Black walnut, maple, cedar, hickory, ash, and all other woods adapted to the manufacture of furniture, vehicles, agricultural implements and wooden ware are here found in the greatest abundance and of the best quality.

The value of ready-made clothing manufactured in Cincinnati last year, it is claimed, exceeded the value of that manufactured in any other city in the Union. There are many large manufactories of furniture, one of which has a cash capital of \$2,000,000 and their premises cover more than six acres of land. Stoves are made in immense numbers, together with every description of castings and hollow ware. I satisfied myself by actual inspection that in these two last branches they have the advantage over the Northern cities, both as regards quality and price. Iron and coal of the best quality is near at hand and their moulding sand is of exceptional quality,

which enables them to produce castings of unusually fine finish. Hardware and wooden ware of every description, vehicles of all kinds, agricultural implements of the most improved patterns, are among the leading articles of manufacture. This list might be extended so as to include almost every article of daily use. Apart from the advantage of lower prices, most of the articles examined presented the appearance of being made more with a view to durability than those we have been accustomed to purchase elsewhere, whilst the fineness of finish is at least quite equal.

In a word, as they manufacture every article we need, and as we are purchasers of every article they make, it would be difficult to over estimate the amount of trade that must spring up between us upon the completion of our connecting rails.

* * * * *

Largely as our city would be benefited by this connection, the people of the interior of our State would be benefited to an equal, if not a greater extent. Common to choice brands of superfine flour are now selling in Cincinnati at \$4 75 to \$5 25 per barrel. In the interior of this State the same flour is sold at \$11 to \$12 50 per barrel. The best clear sides are quoted there at 16½ cents per pound. In the upper districts bacon, not the best, sells at 25 cts per pound. This is in consequence of the bacon and flour having to be shipped first to New York or Baltimore, thence to Charleston, and hence to the interior, being burdened with freight for a distance of more than one thousand miles in excess of the distance by the proposed route, the drayage and other charges at each point of transshipment, and the profits of two or three intermediaries. The opening of these roads would cheapen the cost of flour in the interior districts \$4 to \$5 per barrel, and of bacon at least 5 cents per pound. If our country friends will estimate the saving that would be effected upon these and the many other articles they purchase, they will see that the entire amount needed to complete the Blue Ridge Road would soon be returned to them in the cheapened prices of the articles they consume.

* * * * *

I can not close this report without giving expression to my sincere appreciation of the kindness and good feeling towards myself and towards our dear old city and State, which was universally evinced by all of the citizens of Cincinnati whom I had the pleasure of meeting. I beg them to believe me to be entirely sincere when I say that I hope and trust that whatever may be their action in this matter, whether in accordance with, or contrary to, my own individual opinions, honestly entertained and candidly expressed, may by the result be proven to have been the best for their interests.

BUILDING PAPER—The Marshall (Mich.) *Statesman* says there is a paper mill in that city manufacturing "building paper." The paper is subjected to the pressure of hundreds of tons, which squeezes out the liquid and makes a paper as hard and thick as a shingle—air-tight and water proof. The latter quality comes from a saturation of a new substance. The chief recommendation is its non-conducting property. This keeps out cold and damp. It is cheap. It may be nailed directly on the studding, and the *Statesman* estimates that a room 14 feet in high, 22x16, may be covered at an expense of \$9.

SOUTHERN RAILROAD.

The following very sensible letter is from E. G. BARNEY, Esq., the Superintendent of the Selma, Rome & Dalton Railroad, a line of railway extending from Dalton to Selma, and at present the part owned and wholly controlled by A. D. BREED, Esq., of this city. It but confirms the wisdom of the committees in recommending and the City Council in adopting Chattanooga as the Southern terminus of the projected railway. While freely commending Chattanooga as the best, Mr. B. does not ignore the importance of a close connection with other prominent points, but judiciously concludes that by constructing the central trunk line we will also secure the others. Mr. BARNEY says:

"A. D. Breed, Esq., Cincinnati, Ohio:

"DEAR SIR—I notice in the Cincinnati *Gazette*, of May 25, an article supporting, by very ingenious arguments, the idea of making Nashville and Decatur points in the proposed Southern railway from your city.

"I think, however, if the writer were entirely disinterested, and would place himself in the South for a year or two in a position to observe the flow of trade and commerce he would change the basis of his argument, in consequence of the new facts he would discover.

"Cincinnati seeks a market for her bacon, flour, corn and manufactures, as well as the transportation of Southern productions to Northern and Eastern markets. The question then arises as to how she can accomplish the greatest good for herself with the least expenditure of means. To decide this question her people should be in possession of all the facts.

"With the view of presenting some of these facts which I deem important, I address you this communication.

"The sections of the South which have heretofore, and will hereafter, consume the largest amounts of Western produce are the exclusive cotton and rice districts.

"In 1860 Alabama produced over 900,000 bales of cotton, of which 600,000 bales were produced in what is known as the Cotton Belt, in which Selma and Montgomery are centers.

"This belt is about sixty miles in width, and extends across the State in a southeasterly direction, passing across Southern Georgia and Northern Florida.

"It is celebrated for its fertility, and wherever the latitude is suitable it is capable of producing as much corn as the richest Miami river bottoms. About Okolona, Aberdeen, and Columbus in Mississippi, in the north-western extremity of this belt, latitudes 33° and 34°, 60 to 80 bushels of corn to the acre is no uncommon yield. As this belt trends southward, however, the climate, and, perhaps, an admixture of the tertiary formation, renders it less productive in corn, but better adapted to cotton.

"Thus, about Selma, Marion and Eutaw, 25 to 40 bushels of corn is the average per acre, while at Montgomery, Union Springs and Enfaula, the yield drops to 15 bushels per acre. It is fair to infer that the production of animal food will keep pace with the production of corn, and that the sections of the cotton belt in Alabama and Georgia where the least corn is grown per acre will require

the greatest amount of food from foreign sources.

"Throughout this belt east of Selma and Montgomery, in Ala., and south of Macon, in Georgia, is found the greatest demand for Western produce.

"The other parts of the South, which from climate and soil are now and likely hereafter to be large consumers of Western produce, are, first, the sandy pine lands of the Carolinas, which produce little else than lumber and naval stores, and the purely rice districts of South Carolina and Georgia.

"The pine timber region extends along the coast from North Carolina to the Mississippi river, forming a breadth of forty to one hundred and fifty miles, but the portion most densely settled, and consuming the greatest amount of Western produce, lies in the Carolinas and Georgia.

"Second—The mineral districts of Alabama, Georgia, Tennessee and North Carolina. These embrace 14,000 square miles in North eastern Alabama, about 10,000 square miles in Northern Georgia, and fully equal areas in North-western North Carolina and East Tennessee.

"A glance at the maps of this section will show that the triangle formed by the roads running between Chattanooga, Cleveland and Dalton, forms the central focus from which radiate nearly all the lines of road constructed and projected through the regions described as demanding more of Western products than any other equal area in the South.

"To secure the trade of this section to Cincinnati requires the shortest practicable line to the point on this triangle which will give the greatest facilities to the distribution of Western products to the consumer, and this point is either Cleveland or Chattanooga. It is the duty of an engineer to decide which of these points is the true one, and the best manner of reaching it.

"The trunk lines acting as radii to the center, which I denominate the 'triangle,' have been fairly stated by Mr. Hulbert as radiating from Chattanooga.

"The interest Mr. Hulbert so ably represents makes Chattanooga his natural center. Were the lines of the triangle made common property like the Union track at Indianapolis, it would make very little difference to lines South, which point in the triangle was considered the center.

"The Alabama & Chattanooga would connect at Chattanooga, as also the Western & Atlantic, while the Selma, Rome & Dalton would connect at Dalton or Cleveland. I believe the shortest line from Cincinnati can be built to Cleveland, and so far as my information extends this is also the cheapest line.

"By this connection freight for the Alabama & Chattanooga Railroad would go to Chattanooga. For the Western & Atlantic Railroad, and Selma, Rome & Dalton Railroad would go on to Dalton. From these points every important section in the States of Mississippi, Alabama, Georgia, North and South Carolina can be reached.

"I do not mean to say that all sections can be reached via this center in less distance than by other routes constructed or projected, but more points of importance can be secured by the line proposed than by any other.

"I would not detract from the merits of any of the routes suggested.

"All have merit, and Cincinnati should lend her aid to their construction to the extent of the ability of her citizens.

"There need be no jealousy between Cincin-

nati, Louisville and St. Louis respecting the enterprises proposed.

"The South is an immense field for enterprise. There is room enough for all. The commerce of to-day is but a rippling brook as compared to the flood which a few short years will develop.

"It only remains for citizens of Cincinnati to look to their true interests, to construct such lines as will best subserve their purposes, and by due diligence secure a share of the benefits which are certain to accrue to the North and West in consequence of the development of the Southern States.

"Very truly yours, E. G. BARNEY,
"Sup't Selma, Rome and Dalton R. R.

Michigan Railroad Items.

THE GRAND RIVER VALLEY RAILROAD.—The Jackson *Patriot* of May 26th, says: Work on the Grand River Valley Railroad, between Hastings and Grand Rapids, is progressing rapidly. Several miles of the road-bed are already prepared, and track-laying will commence as soon as the iron, which is on its way from New York, arrives. It is the intention of the officers of the company to have the road completed to Grand Rapids before the commencement of the State Fair.

KALAMAZOO AND SOUTH HAVEN RAILROAD.—Everything concerning this road is progressing finely. The Engineers are now making the preliminary surveys. We understand from several of the Directors that there are three feasible routes, and the road will be located on the route that promises the most assistance. The final location of the road will be made in about two weeks, when grading will be commenced and the work pushed with vigor, with a view of having the road in running order this season.

RAILROAD AID.—Alamo voted \$10,000 aid to the K. & S. H. R. R. last Saturday. The vote stood 120 for and 57 against giving aid.

K. A. & G. R. R. R.—A trip over this road demonstrates the fact that, except in a few places, the road-bed is in first-class condition. Gangs of hands are at work on the rough places, leveling up and grading down, so that in a few weeks the entire road-bed from here to the Rapids will be in as good condition as the old roads. The running time has been changed and shortened, so that now the time between here and Grand Rapids is only three hours instead of four.

PERU, WARSAW AND GOSHEN RAILROAD.—A meeting was held in Goshen, on the 14th of May, at which committees were appointed to solicit the freeholders to petition the city to contribute \$30,000, in aid of this road. The *Democrat* suggests that while that was being done, "it would be a good idea for the committee also to report the names of all who refuse to sign, for historical reference. No man should be ashamed of his action in the matter, and those who attempt to block the wheels of progress may desire to have the fact recorded on their tomb-stones."

A letter from Goshen, dated the 29th ult., expresses great confidence in securing the requisite amount of local aid.

CITY COUNCIL.

SOUTHERN RAILROAD

Chattanooga the Southern Terminus.

To be submitted to a vote of the People
June 26.

On Friday afternoon, June 4th, at the regular Session of the Common Council, the Committee on Southern Railroad made the following report:

"To the honorable City Council of Cincinnati:

"Your committee to whom were referred the Ferguson Railway Law, and the resolutions therewith, respectfully report:

"That the importance of the proposed railway, the great interests affected thereby, and the large sum authorized to be expended in prosecuting the enterprise, demanded and have received a careful investigation. We are of the opinion that the immediate construction of a line of railway from Cincinnati to a central point in the South is highly essential to the interests of the city; that said railway should be constructed so as to make it, as near as possible, an air-line, and terminate at a point where the greatest number of trunk lines of railway concentrate, and where the largest facilities are offered for communicating with different cities and markets of the Southern States, and that said line of railway should be built as speedily as may be consistent with the magnitude of the enterprise.

"Under the law it is only required of the City Council to pass a resolution declaring the railroad to be essential to the interests of the city, to name the name of the railway, and to cause the same to be submitted to the qualified voters of the city for confirmation. We, therefore, recommend that the name and style of said railway be the Cincinnati Southern Railway, and that the Southern terminus of said railway be the city of Chattanooga, in the State of Tennessee.

"We have selected the city of Chattanooga as the Southern terminus, believing that a line of railway as nearly direct to that city as possible will fully realize the expectations and demands of the enterprise, and harmonize the largest number of local and general interests. The claims of the Knoxville and of the Nashville and Decatur routes, which have been so elaborately and respectfully urged by their representatives, are in no manner to be ignored; on the contrary, railway connections with those cities are of the highest importance, not only to the trade of Cincinnati, but also to the better success of the proposed Southern trunk railway, and should receive prompt encouragement from our citizens.

"In naming the terminus, and thus indicating the direction of the Southern Railway, it is with the belief that a grand intermediate line to Chattanooga will not only strike the key to the largest system of railways in the South, but will also secure connecting roads to Knoxville and Nashville, Tennessee, and Decatur, Alabama, and that the value and importance of such connection will attract public and private capital to speedily complete them.

"In these opinions, the committee from the Board of Trade and Chamber of Commerce unanimously concur; and to those committees we extend our sincere acknowledgement for

their assistance and zeal in obtaining the information that has led us to the foregoing conclusions.

"W. H. HARRISON,
"CHARLES KAHN, JR.,
"J. W. FITZGERALD,
"GEORGE A. DOHERTY,
"A. E. JONES,
"Railroad Committee.
"A. T. GOSHORN,
"CHRIS. VON SEGGERN,
"DRAUSIN WULSIN,
"Law Committee."

Mr. Harrison submitted for adoption the following preamble and resolutions:

"WHEREAS, By an act of the General Assembly of the State of Ohio, passed on the 4th day of May, 1869, entitled, 'An act relating to cities of the first class having a population exceeding 150,000 inhabitants,' it is enacted in the first section thereof, among other things, that whenever, in any city of the first class having a population exceeding 150,000 inhabitants, the City Council thereof shall, by a resolution passed by a majority of the members elected thereto, declare it to be essential to the interests of said city that a line of railway to be named in said resolution should be provided between termini designated therein, one of which shall be said city, it shall be lawful for a Board of Trustees, appointed as in said act provided, to borrow, as a fund for that purpose, not to exceed the sum of \$10,000,000, and to issue bonds therefor in the name of said city, under the corporate seal thereof, bearing interest not to exceed 7 3/10 per cent. per annum, payable at such times and places, and in such sums, as shall be deemed best by said Board, and

"WHEREAS, It is also provided in the same section of said act, that no money shall be borrowed or bonds issued until after the question of providing the line of railway specified in the resolution shall be submitted to a vote of the qualified electors of said city at a special election, to be ordered by the City Council thereof, which not less than twenty days' notice shall be given in the daily papers of said city; and

"WHEREAS, The city of Cincinnati, in the State of Ohio, is a city of the first class, having a population of 150,000 inhabitants; therefore, in pursuance and by virtue of powers in said act given, be it

"Resolved, By the City Council of said city of Cincinnati, a majority of all the members elected thereto concurring, as follows: First, That the said City Council hereby declares it to be essential to the interests of the said city of Cincinnati that a line of railway, to be named the Cincinnati Southern Railway, shall be provided between the said City of Cincinnati and the city of Chattanooga, in the State of Tennessee.

"Second—That a special election be held on Saturday, the 26th day of June, A. D. 1869, at which the question of providing the said line of railway shall be submitted to a vote of the qualified electors of the said city; and the City Clerk is hereby directed to cause to be printed a sufficient number of two sets of tickets, (not less than 100,000 of each set,) for use at each voting place, upon one of which sets shall be printed 'Special election to decide for or against providing a line of railway between Cincinnati, Ohio, and the city of Chattanooga, State of Tennessee—For providing said line of railway.' 'And upon the other set shall be printed, 'Special election to decide for or against providing a line of railway between Cincinnati, Ohio, and the city of Chattanooga, State of Tennessee—Against providing said line of railway.'

"Third—That the Mayor of said city of Cincinnati be and is hereby directed to issue his proclamation to the qualified electors of the city, giving notice of the said special election, and of the time and places of holding the same, and said proclamation be published in the daily newspapers of said city, at least twenty days before said election. Said election shall be held at the usual places of voting at municipal elections. The returns of said election shall be made to the City Clerk, and by him be laid before the City Council, who shall declare the result by a resolution."

Mr. Harrison also presented the following communications:

"W. H. Harrison, Chairman of the City Council Committee:

"The undersigned committee, appointed by the Board of Trade to consult with a committee appointed by the Chamber of Commerce and by your honorable body, in relation to suitable termini for your contemplated Southern Railroad, state that they have given the subject careful attention, have heard the arguments of persons advocating the various proposed routes from all sections along the various lines proposed, and give it as our decided opinion that the city of Chattanooga should be placed in the resolution as the terminus of said road.

"We do not deem it prudent to occupy your time with the many reasons which cause us to come to this conclusion.

"Hoping your committee may agree with us, and that they will recommend to your honorable body the passage of a resolution to this effect, we are,

"Yours, truly, "R. M. BISHOP,
"L. WORTHINGTON,
"A. E. CHAMBERLAIN."

"To the Honorable City Council:

"GENTLEMEN—The undersigned committee of the Chamber of Commerce, on the subject of the Southern Railroad, submit the following:

"That for the purposes of the act of the Legislature of the 5th of May, 1869, in relation to a Southern Railroad, and to conform to the provisions of said act in regard to fixing the termini of said road, we recommend that Chattanooga be named as the southern point, but that it should be left to the Trustees to be hereafter appointed to determine whether that point shall be reached by a Knoxville, a McMinnville, or by a more direct line. Our opinion, however, is that it will not be necessary to go beyond the State line of Kentucky or Tennessee to connect with the entire system of Southern roads.

"W. HOOPER,
"C. W. ROWLAND,
"BRIGGS SWIFT,
"Committee of Chamber of Commerce."

After a small amount of very unimportant talk, the report was accepted and the resolutions adopted by a unanimous vote of the Council. This is most unprecedented, and only foreshadows the vote which the question will receive when submitted to the People.

The receipts of the Western Union Railroad Company for the week ending May 21:

	1869.	1868.	Increase.	Decrease.
Freight.....	\$10,907 28	\$10,530 21	\$377 09	
Passengers.....	3,969 95	3,219 93	750 00	
Express & Tel.....	312 00	350 00		37 50
Mail.....	375 00	375 00		

Totals..... \$15,564 73 \$14,505 16 \$1,059 69 \$37 50

Receipts from January 1, to May 21:

1869.....	\$221,774 99
1868.....	\$215,061 21

Increase..... \$6,713 08

Milwaukee and St. Paul Railway.

[From the Financial Chronicle.]

The corporation owning the Milwaukee and St. Paul Railway line is a consolidation of the Milwaukee and St. Paul Railway (Milwaukee to La Crosse) and the Milwaukee and Prairie du Chien Railroad (Milwaukee to Prairie du Chien) Companies, a consolidation perfected in 1868 by the purchase of the latter by the former company. The line in Iowa and Minnesota was acquired by the assumption of its cost and indebtedness. During the last fiscal year the company extended their Northern line from Omro to Winneconne (opened November, 1868), a distance of five miles, and at the close of said year were engaged in the completion of the Watertown branch from Sun Prairie to Madison, a distance of about 12 miles. The opening of the latter section of road will shorten the distance between Milwaukee and the Mississippi River by about 17 miles. The company have also purchased the elevator at Milwaukee for \$300,000, so that the several roads now owned by the company may be described as follows:

	Miles.
Milwaukee, Wis., to Prairie du Chien, Wis.....	193
Prairie du Chien, Wis., to St. Paul and Minneapolis, Minn.....	215
Milwaukee, Wis., to La Crosse via Watertown, Wis.....	196
Milwaukee, Wis., to Portage via Hericon, Wis.....	95
Hericon, Wis., to Berlin and Winneconne, Wis.....	58
Watertown, Wis., to Sun Prairie, Wis.....	26
Milton, Wis., to Monroe, Wis.....	42

Total length of all the lines..... 825

The rolling stock in use on the several lines at the close of 1868 consisted of 135 (an increase in the year of 10) locomotives; 64 (increase 4) first class, and 10 (increase 2) second class passenger cars; 6 sleeping cars; 2,070 (increase 220) box freight cars, and 450 (increase 32) flat and stock cars. The repair and renewal of track in 1868 consumed the following, viz: new iron rail 704 tons; new steel rail 115 tons; re-rolled rail 5,784 tons; splices 385,900 lbs; chairs 139,054 lbs; bolts 112,085 lbs, and spikes 357,097 lbs. Also, 190,770 cross-ties. The value of fuel and supplies on hand at the close of the year amounted to \$509,882 62. The company now have several new connections in process of construction. 1. *McGregor and Sioux City Railway.* The franchises of this company have been purchased by the Milwaukee and St. Paul Company as far West as Charles City, about 50 miles, and are to be paid for in shares and first mortgage bonds. This portion of the line will be completed before the harvest. The Western portion will be built by the McGregor and Sioux City Company at the rate of 60 miles per annum. Probably the Milwaukee and St. Paul Company will absorb the whole line, which, when completed, will, it is thought, become the best part of the Company's property. 2. *West Wisconsin Railway.* Extending from Tomah on the La Crosse division, to St. Paul. The road is already completed to Black River Falls, and being operated by the Milwaukee and St. Paul Company. 3. *Southern Minnesota Railway.* From La Crescent, opposite La Crosse, is now completed to Lanesboro', a distance of 50 miles. 4. *Hastings and Dakota Railroad* is open from Hastings to Farmington, 17 miles, and is being pushed on to the Missouri River, the Western terminus to be at or near the mouth of the Washita or Good River. 5.

Minnesota Valley Railroad—open from St. Paul to Mankato, about 100 miles, with a fair prospect of rapid extension much further up the rich valley of the Minnesota River. 6. *St. Paul and Pacific Railroad*—extending northwesterly from St. Paul about 60 miles, with a view of ultimately reaching the Pacific Ocean near Astoria, Oregon. It is understood that certain Dutch capitalists have this project in hand. 7. *Lake Superior and Mississippi River Railroad*—is already built from St. Paul toward Lake Superior, about 30 miles, and promises to reach a point on that lake during the current year.

The importance of these connecting roads is evident. They are either extensions of the Milwaukee and St. Paul road, or will become valuable feeders to that work. The principal freight of all and each will be the lumber of Minnesota for consumption on the prairies, and the coal and provisions of Iowa for use in Minnesota, Wisconsin, etc., and for transmission to the lake ports and Canada. Such an interchange of commodities will fill the cars both ways.

The following is a summary of operations on the company's railways for the fiscal year 1868, and of the results thereof:

	Total.
Miles run by trains.....	(825 m.)
Passenger.....	857,412
Freight.....	1,539,875
Wood and gravel.....	324,604
Total miles run.....	2,721,891
Tons of freight carried.....	
Tons, eastward.....	740,352
" westward.....	394,213
" both ways.....	1,134,565
Tons carried one mile.....	
Tons, eastward.....	83,668,992
" westward.....	36,377,063
" both ways.....	120,046,055
Tonnage and storage revenue.....	
Revenue eastward.....	\$2,671,960 63
" westward.....	1,514,573 85
" both ways.....	4,186,534 48
" from storage.....	79,749 41
Tonnage revenue per mile.....	
Per mile eastward.....	3 19c.
" westward.....	4 16
" both ways.....	3 49
Passengers carried.....	
Passengers eastward.....	367,885
" westward.....	426,698
" both ways.....	794,583
Passengers carried one mile.....	
Passengers eastward.....	18,857,089
" westward.....	24,725,588
" both ways.....	43,576,677
Passengers revenue.....	
Revenue eastward.....	\$741,700 50
" westward.....	930,555 54
" both ways.....	1,672,256 04
Minn. & St. Paul accom. &c.....	23,039 68
Passenger revenue per mile.....	
Per mile eastward.....	3 93c.
" westward.....	3 76
" both ways.....	3 84

The gross earnings, including mails, rents, expresses, etc., were as shown in the following summary:

	Total.
Freight.....	\$4,266,283 89
Passengers.....	1,695,295 72
Mails and rents.....	78,864 80
Miscellaneous.....	11,956 19
Express Service.....	308,396 77
Telegraph.....	4,264 69
Sleeping Cars.....	26,205 50
Elevators.....	126,378 15
Total gross earnings.....	\$6,517,645 71

Deduct from these amounts as follows:

Ordinary expenses.....\$3,113,312 49
Extraordinary expenses..... 919,728 50

Total expenses.....\$4,044,040 90

Net earnings.....\$2,484,604 72

The extraordinary expenses charged to income include renewals of tracks, new bridges, new fences, new buildings, new locomotives and cars, tools and machinery, United States taxes on manufactures, two elevators, and interest and exchange. Had these charges been placed against new capital the net earnings would have been \$3,404,333 22, instead of \$2,484,604 99 as shown in the above account. Compared with the earnings and expenses of 1867, those of 1868 were increased by the following amounts:

Total.
Gross earnings increased.....\$834,037 12
Expenses increased..... 367,351 17

Net earnings increased \$466,671 95

The gross earnings and expenses on all the divisions for the year ending December 31, 1867 and 1868 amounted to:

	1867.	1868.
Gross earnings...	\$5,683,608 59	\$6,517,645 71
Operating exp'n's,	3,665,685 82	4,033,040 99

Net earnings.... \$2,017,922 77 \$2,484,604 72

This residue is charged with interest on the mortgage indebtedness and previous to the extinguishment of the preferred stock of the Prairie du Chien Company with the dividend thereon. The past year has seen the first dividend on the preferred and common stock of the consolidated Company. In pursuance of the authority of the stockholders, conferred January 1, 1869, the directors declared a cash dividend of \$7 per share, and a stock dividend of \$10 per share on the preferred stock from the net earnings of 1867 and 1868; and \$14 per share on the common stock from the earnings of 1866, 1867, and 1868, the stock payments being made in both cases in the common stock of the Company. The Company are now free from floating debt, at least free the report says from any debt which they are not prepared to pay at sight.

The consolidation of the two companies constituting the present corporation was not completed at the close of the fiscal year, 1867. We now give the consolidated balance sheet as of date Jan. 1, 1868. The company have purchased during the year then ending additional property to the amount of \$801,291 17:

LIABILITIES.

Capital stock, preferred.....\$8,188,272 00
" " common..... 5,554,599 00

\$13,742,871 00

1st mort. 7 per cent. bonds.....\$5,425,000 00
1st mort. 8 p. c. (E. D.) bonds... 793,000 00
1st mort. 7 p. c. (I. & M.) bonds, 3,730,000 00
1st mort. 7 p. c. (M. Cen.) bonds, 270,000 00
1st mort. 8 p. c. (P. du C.) bonds, 3,455,000 00
2d mort. 7 3-10 p. c. bonds..... 736,000 00
" 7 per cent. bonds..... 1,390,000 00
Income 7 per cent. bonds..... 20,000 00
Mil. City 7 per cent. bonds..... 246,000 00
Mil. & Western 7 per ct. bonds... 294,000 00
R. E. purch. 7 per cent. bonds... 148,500 00
Incumbrances assumed..... 337,687 57

\$16,835,187 57

Pay rolls and bills.....	266,176 80
Bills payable.....	14,573 60
Freight and Ticket accounts.....	6,693 96
Div. No. 9 Pr. du Ch. Div.....	4,404 29
Coupon accounts.....	65,841 90
Income account.....	2,409,491 84

Total.....\$33,394,211 05

ASSETS.

Cost of property.....	\$31,962,017 13
Materials on hand.....	509,882 62
U. S. Post-office.....	45,561 72
Due from agents, etc.....	192,257 28
Miscellaneous accounts.....	16,091 54
Interest paid on bonds, due Jan. 1, 1869.....	112,184 84
Cash on hand.....	556,245 92

Total.....\$33,394,241 65

CHICAGO & NORTH-WESTERN RAILWAY.—

The following gentlemen were on June 3d, elected directors of the Chicago and North-western Railway for the ensuing year:

Henry Keep, H. H. Baxter, John M. Burke, Benjamin Nathan, M. L. Sykes, Jr., James H. Benedict, George S. Scott, John Bloodgood, F. P. James, W. S. Gurnee, Russell Sage and Anthony G. Dulman, of New York; J. L. Ten Have Frau, of Amsterdam, Holland; H. R. Pierson, John B. Turner and Geo. D. Dunlap, of Chicago; Alexander Mitchell, of Milwaukee.

There are three members in this board viz: Henry R. Pierson, Anthony G. Dulman and J. L. Ten Have Frau. The latter gentleman comes in as the representative of the large amount of stock purchased during the year as an investment by Dutch capitalists. Mr. Pierson, as everybody knows, has been a director and the Vice President of the company since the resignation of Perry H. Smith, some months ago. The retiring directors are Samuel Sloan, of New York, and Wm. H. Ferry, of Chicago.

The following officers were elected by the New Board of Directors:

President, Henry Keep; Vice President and Financial Agent, Henry R. Pierson; Second Vice President, M. L. Sykes, Jr.; Secretary and Treasurer, Albert L. Pritchard; General Superintendent and Chief Engineer, George L. Dunlap; General Solicitor, James H. Howe; Assistant Treasurer, Geo. P. Lee; General Accountant, M. M. Kirkman; Assistant Secretary and Register, J. B. Redfield; Purchasing Agent, Adam Thayer, Jr.

PERSONAL.—We regret to learn from the *Western R. R. Gazette*, that our estimable friend BEN PATRICK, the efficient and deservedly popular General Ticket Agent of the Chicago and North Western Railway has had the misfortune to break his leg. It seems that in jumping from a street car his foot struck a small stone, which, turning under his weight, threw him forward with his knee on a plank a little high above the pavement, and his leg broke just above the knee. He is now as comfortable as could be expected, but a broken leg is a bad thing to have, and Patrick can hardly hope to leave his house for several weeks.

Chicago, Rock Island & Pacific Railroad.

ANNUAL MEETING OF STOCKHOLDERS—ELECTION OF DIRECTORS—ANNUAL REPORT.

[From the Western R. R. Gaz.]

The annual meeting of the stockholders of the Chicago, Rock Island & Pacific Railroad was held at the general office in this city last Wednesday, June 2. The stockholders were very generally represented. Of the \$14,000,000 stock more than \$12,000,000 voted. There was no contest. Mr. Tracy held proxies for \$10,500,000 of stock, and if there was any opposition to his policy it was not made manifest.

The Chicago & Rock Island Railroad was completed in 1854, and was the first railroad to reach the Mississippi river. In 1855 it was in full operation. There was then a company organized to build a railroad to Council Bluffs, known as the Mississippi & Missouri River Railroad. It had commenced operations in September 1, 1853, but made slow progress, reaching Iowa City, fifty-five miles, January 1, 1856, Marengo, thirty-one miles further, in 1858, Grinnell, 130 miles from Davenport, in 1859, stopping there a few years, then taking a start to Keokuk, and finally reaching Des Moines less than two years ago.

By this time, however, the Mississippi & Missouri River Railroad had come into possession of the Chicago, Rock Island & Pacific.

It was about a year ago that it was determined to push the line rapidly through to Council Bluffs, and be ready for a share of the business over the Pacific Railroad. We know how Mr. Tracy's policy was opposed, and how he succeeded in pushing through the work in the face of complications and obstacles the most perplexing, but not all know how thoroughly he has done his work. Resolving not only to have a road to Council Bluffs, but to have a good road, he has insisted upon the most thorough construction, notwithstanding the rapidity which was considered indispensable. The curves are light, the steepest grade is a trifle over fifty feet to the mile, the embankments are unusually wide and solid, the bridges—and there are many of them—are substantial Howe truss structures, the rails are heavy, of good quality, most carefully laid and thickly tied. There has probably never been a new railroad in the West so solidly built. It is in excellent condition throughout, and the new road west of Des Moines which has been built within a year seems as solid and safe as the older line.

The following persons were chosen Directors:

David Dows, Wilson G. Hunt, O. D. F. Grant, Charles R. Marvin, New York; Robert A. Forsyth, Newburgh, N. Y.; Milton Courtwright, W. L. Scott, John Hearn, Erie, Pa.; Ebenezer Cook, George L. Davenport, Davenport, Iowa; Benjamin F. Allen, Des Moines, Iowa; Henry H. Porter, John F. Tracy, Chicago.

There are six new men in this board: Milton Courtwright, W. L. Scott and John Hearn, of Erie; O. D. F. Grant and Charles R. Marvin, of New York; and Henry H. Porter of Chicago. These succeed Francis H. Tows, William H. Appleton, David Crawford, Jr., and Oliver Charlick, of New York; and W. F. Cookbaugh, of Chicago. Of the new directors, O. D. F. Grant is the proprietor of the Grant Locomotive Works at Paterson, N. J.; Messrs Courtwright and Scott are of the new directory of the Lake Shore & Michigan Southern, elected also last Wednesday, and Mr. Porter was formerly General Superintendent of the Michigan Southern road.

Mr. Tracy's policy was approved by the unanimous vote of the stock represented, and the sale of 49,000 additional shares of stock made by order of the Executive Committee about a year ago was ratified and confirmed.

At a subsequent meeting of the directors the following officers were elected for the ensuing year: President and General Superintendent, John F. Tracy; Secretary, Ebenezer Cook; Treasurer, no appointment; Assistant Treasurer, F. D. Sherman; Register, E. W. Dunham; Assistant General Superintendent, P. A. Hall; Executive Committee, John F. Tracy, E. Cook, David Dows, B. F. Allen, W. L. Scott.

William A. Appleton and W. F. Coolbaugh were succeeded in the Executive Committee by David Dows and Wm. L. Scott.

Below we give a summary of the statements contained in the annual report:

The report commences by rehearsing the difficulties and embarrassments growing out of the law suits, injunctions and legal proceedings incident to the issue and sale of the 49,000 shares of stock which were sold to provide funds to complete the road from Des Moines to Omaha, all of which have been overcome, and the road has been completed to the Missouri river, and will be opened for traffic on the 7th of the current month.

The gross earnings for the year amount to \$5,231,979 75
The operating, legal expenses, taxes, &c., are..... 2,523,880 61

Leaving net earnings..... \$2,708,099 14
Paid dividends, interest and Peoria rent..... 2,262,520 29

Surplus earnings for the year \$445,578 85

The percentage of operating expenses to earnings including local expenses and taxes, is 48 24 100 per cent.

The percentage of operating expenses to earnings, less local expenses and taxes, is 45 23 100 per cent.

The profit and loss account shows a credit balance for the year ending April 1,.... \$1,597,244 02
Deduct dividend paid April 10 735,000 00

\$862,244 02

Or a surplus of a little over 6 per cent.

The report estimates that the company will require the sum of \$3,448,120, to meet the payments falling due the next thirteen months, as follows:

Bonds of the Bridge Company due January, 1870, guaranteed by this Company..... \$ 400,000
Bonds of the Chicago & Rock Island Railroad Company due July, 1870..... 1,397,000
One-half cost of building new bridge over the Mississippi River at the city of Rock Island 300,000
New freight buildings and additional track in the city of Chicago..... 770,120
New equipment..... 581,000

Total \$3,448,120

The balance sheet shows the company had on hand, and available, the following items, April 1:

Cash in Assistant Treasurer's hands..... \$1,177,045 03
Bills receivable..... 289,070 00

Total..... \$1,466,115 03

From which should be deducted the dividend paid April 10... \$ 731,115 03

Since the date at which this report was made (April 1) the most of this balance, together with the current earnings, have been expended in paying the final estimates of the contractors and other expenses incidental to building and preparing for operating the new portion of the road between Des Moines and the Missouri river, so that the company, after providing for the payment of the July interest on their bonded indebtedness, will be virtually out of cash. It is left for the wisdom of the stockholders and directors to provide for these large payments, which seem to be necessary to put this great road in a position to maintain its front rank in the great railroad enterprises of the age.

To raise these necessary funds, the company will either have to resort to an increase of its capital stock and the sale of the same, or a further issue of its mortgage bonds, either or both of which it is fully authorized to do.

The Great Pacific Railway.

From New York to San Francisco is three thousand six hundred and eighty-two miles. It is traversed by passengers in six days, by freight in ten. From San Francisco to Japan is nineteen days, or twenty-five from New York, and (say) thirty-six from London, which speed exceeds that of the British mails to Yokohama, *via* Suez, by upwards of twenty days. The travel and commerce of the nations of Western Europe with the peoples of Eastern Asia and the great island of Australia will pass over the railway; and the land that has built it will reap the benefit of being the world's highway. More than all this, the thousands whose fortunes are cast on the far-off Pacific shores are brought nearer the homes of their youth and identified as never yet has been with the interests of the region from whence they came. From this greater community of interests must spring a still deeper devotion to the integrity of the Government and the Union of the States, such as could have come from no other source. Thus the laying of the iron tracks across the continent is something more than the evidence of business energy or material progress; it is the promise and the harbinger of enduring fraternity and peace between the two most widely separated portions of the land.—*Artisan*.

BESSEMER STEEL.—It is understood that Mr Bessemer has signified his willingness to reduce his royalties from £2 to 2s. 6d per ton, except for steel rails, for which a rebate of 20s. per ton is already allowed. Ordinary Bessemer steel will thus be reduced nearly £2 per ton, and rails about £1 10s. This will remove all inducements which might otherwise exist to infringe the patent rights remaining to Mr. Bessemer after the expiration of his principal patents in the course of next year, and at the same time will give an impetus to the steel rail trade, by permitting the steel rails to be sold in the market at a price but little higher than that of iron. If the Heaton process should solve the question of converting cheap pig iron into steel, iron rails may probably be entirely displaced.—*London Mining Journal*.

It is understood that Jay Cooke & Co. have determined to take a hand in the construction of the North Pacific Railroad to connect Lake Superior with Puget Sound.

Sinking the Columns of the Omaha Bridge.

The Council Bluffs *Nonpareil* gives the following description of the method of sinking the immense hollow cast iron columns which are to form the piers of the great railway bridge over the Missouri between Council Bluffs and Omaha, now being built under the superintendence of Gen. William Sooy Smith, formerly of the United States Engineer Corps. The immense iron sections are delivered by a side track from the Northwestern Railway. They are unloaded from the flat cars on which they are brought by an inclined timber plane. They are then rolled to the spot where they are to be used, on a trackway. A huge derrick is used to handle them on the spot where they are to be placed. The first section having no flange at the bottom is lowered into position, and an air-tight cap bolted on the top. The air is then exhausted from within by means of two double-acting air pumps driven by a steam engine. The weight of the atmosphere is thus let fall upon the cap, and the cylinder is forced down in depth depending upon the nature of the material into which it is driven. When the top of the first section is brought near the water surface, the cap is taken off, and another section bolted on the top of the first, and so on throughout until the column of the pier is complete. When the second section is fastened to the top of the first the cap is placed on the second section, and the column is again sunk by exhausting the air from within as before. This process is continued until the resistance surfaces become so great that the weight of the column, with the atmospheric pressure added, is not sufficient to force it farther down. An air chamber, provided with a suitable arrangement of valves, is then bolted on the top cylinder, and workmen are sent within the column to excavate the material and earth, while the water is kept out by the pressure of air forced into the columns by the same air pumps which are used for exhausting during the first part of the operation of sinking. When the material to be excavated is sand, or any other soft substance, it is blown out with great rapidity, the column of sand being sometimes sixty feet high, and discharging a black spray for many yards around the work. This mode of discharging the result of an excavation is an entirely new invention, made by Gen. Smith in the course of his many experiences in bridge building and foundation sinking.

This method he has so greatly improved since the commencement of the work on our bridge that fourteen cubic yards of earth have been thrown out by it in twenty two minutes. If clay or any other hard material is encountered, it is dug up by the workmen inside and placed in buckets, which are raised by a windlass in the air chamber, fixed on the top of the section, and operated by a small hoisting engine attached to the outside. If a log or any other obstruction is encountered by the cylinder, the men go to the bottom and cut it out of the way. As often as the dug-up material is removed to the upper surface of the cap mentioned above, which forms the bottom of the air chamber, men come out through the latter, the pressure is allowed to escape from within, and the cylinder sinks by its own weight a certain distance. The air is then exhausted from within, and the column sinks to the extent of the excavation. At this point it is found necessary to increase the weight of the column by loading it with stone within. Each section is partly filled with stone, a well or chimney being left in the center, through which the men and material pass during the

excavation. The process of sinking these great tubes is one of the most interesting within the range of mechanics and pneumatics. The soundings made at great expense by the company demonstrate the fact that there is a rock bottom within easy reach.

The first column of the first pier, has been sunk within five feet of the rock, and now rests on a hardpan clay almost impervious to the steel sounding rod. A day or two more of excavation, and General Smith will satisfy the sceptical that the soil in the neighborhood of the Missouri has a solid foundation not a great ways off, upon which it rests. General Smith and General Dodge are not feeling in the dark when they undertake to fathom the depths of sand bordering on and in the river. Two columns are required to make a pier, and will be joined by cross sectional iron bracing and filled in with concrete masonry. This will prevent the highest and most violent floods of the Missouri from ever disturbing the foundation, though no ice breaker should ever be used. The rapidity with which the sinking proceeds may be noted from the fact that since he has been here he has put down the column forty feet in fifty-four hours. The sections now in use are all cast in Chicago. The first were cast in Cincinnati, but were not of the requisite standard, and therefore abandoned. Only enough are as yet made to put one sinking apparatus in operation, though barges and engines have been completed to go to work in the river as soon as enough of sections have been cast and shipped to keep three sets of machinery in operation.

THE BESSEMER STEEL PATENTS.—The more important of the Bessemer patents for the manufacture of steel expire early next year, both in England and in this country. It is stated in the London *Mining Journal* that Mr. Bessemer has expressed his willingness to reduce his royalties in England to 2s. and 6d. per ton. They have heretofore been £2 per ton. They have heretofore been £2 per ton on everything but steel rails, on which the royalty was only £1 per ton. This is expected to remove all inducements to infringe or invade his remaining patents, and will permit steel rails to be sold at a price but little higher than that of iron, and an enormous impetus will doubtless be given to their manufacture.

It is not probable that the expiration of Mr. Bessemer's patents in the United States will in the same degree, if at all, affect the manufacture here, for the controlling American patent seems to be one granted to William Kelley, an American inventor. This patent will not expire for more than two years, and it is quite probable that it can be extended for seven years longer. The history of the discovery of what is now universally known as the "Bessemer process" is somewhat remarkable. After Mr. Bessemer had secured his patents in Europe and in this country for the leading feature of the process, which is the blowing of air into and among a mass of molten iron, it appeared that, about the same time or prior to its invention in England by Mr. Bessemer, the same thing had been invented in the United States by Mr. Kelley, who, after the issue of the patent here to Mr. Bessemer, also made application for a patent, which, on proving priority of invention, he obtained. The presumption is therefore in favor of the validity of Mr. Kelley's patent, which is owned or controlled by John A. Griswold, of Troy, N. Y., and associates, who are trustees of the Bessemer patents in this country.—*Artisan.*

WRIGHTSON & CO.,

Railroad Printers

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HAVING MADE RAILROAD PRINTING A

SPECIALTY,

We would respectfully call the attention of Superintendents, General Ticket and Freight Agents to the class of work we are now producing.

Bulletin Boards,

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CONSECUTIVELY NUMBERED

COUPON AND LOCAL TICKETS,

Bills Lading,

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AND ALL WORK INCIDENT TO RAILROAD OFFICES,

Got out in first-class style, and at as low rates as any establishment in the country.

SUSPENSION

COUPON TICKET CASE.

BACON'S PATENT.

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF FORMS.	PRICES.	SIZE NO. OF FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without portings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms: and also with working plans, if desired.

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WM. MERCER, R. B. MORE, GEO. STODDARD
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 J. M. LUN, Sup't, C. & I. C. R. R., Indianapolis, Ind.
 L. WILLIAMS, Ass't Sup't, C. H. & D. R. R., Cincinnati.
 J. H. WELLES, Ass't Sup't, D. & M. R. R., Dayton, O.
 D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati.
 J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton
 G. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., Indianapolis
 Aug. 2, 1891.]

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IT CANNOT GET OUT OF ORDER, OR FREEZE UP.
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A locomotive can raise water, with its own steam, to fill
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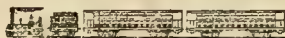
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—FROM—

CINCINNATI TO NEW YORK

WITHOUT CHANGE OF
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—VIA—
 Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W.
 Railway, on Saturday Morning, by the 6:00 a.m. Lightning
 Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next
 day, Sunday

Through Lightning Express Trains for New York,
 Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6:15 a.m.	7:10 p.m.
" Dayton.....	8:35 " "	9:30 " "
Arrive West Salem.....	1:50 p.m.	4:53 a.m.
" Leavittsburg.....	4:55 " "	7:35 " "
" Meadville.....	7:35 " "	11:10 " "
" Susquehanna.....	7:48 a.m.	11:29 p.m.
" Paterson.....	2:25 p.m.	6:03 a.m.
" New York.....	3:15 " "	7:00 " "
" Boston.....	5:45 a.m.	4:45 p.m.

Sleeping Coaches on Night Trains the entire distance
 between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday
 night instead of Saturday night. All other
 Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
 } At Mansfield with Pitts., Ft. Wayne
 } and Chicago Railroad.

THIS IS THE ONLY ROUTE

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OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely
 new, of the most modern, substantial, and approved de-
 scription, unequalled by any Railway on this continent.

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Provided for all Night Trains, and Smoking Cars for all
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Ample time is allowed, at all hours,
 for meals.

No effort will be spared by the Company to render a trip
 over the Road pleasant and comfortable to the Passenger.

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FOR THROUGH TICKETS AND BAGGAGE

CHECKS,

Apply in Cincinnati at New Depot of Cincinnati, Hamilton
 and Dayton Railway; or at north-west corner of Broadway
 and Front streets, and at No. 80 Fourth street, nearly op-
 posite Post Office. Also at any of the principal Railroad
 and Steamboat Offices in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. RUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.

On and after Monday, May 21, 1891, three Express
 Trains will leave New York daily (Sundays excepted) via
 Central Railway of New Jersey, and Allentown, leaving
 Pier 15, foot of Liberty street, North River, at 7:00 and
 9:00 a.m. and 8:00 p.m. On Sundays, one Express Train
 at 7:00 p.m.

Passengers by this route save 60 to 130 miles, and Two
 Hours' Time over other Lines, with but one change of
 cars to Chicago or Cincinnati, and but two to St. Louis.
 Passengers front the East by Sound Boats or by Rail in the
 morning, will have time for Breakfast before leaving the
 City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a.m.—CINCINNATI EXPRESS for the West, arrives
 at Harrisburg 2 p.m., Pittsburg 12:10 p.m.

9:00 a.m.—MORNING EXPRESS for the West. This
 train leaves New York Two Hours later than other Lines,
 and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with
 Lehigh Valley Railway to Mauch Chunk; at Reading with
 Philadelphia & Reading Railway for Pottsville, arrives at
 Harrisburg at 4:30 p.m. Without change of cars from
 New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with
 but one change to Cincinnati or Chicago, and but two to
 St. Louis. This train leaves New York Two Hours later
 than other Lines, and arrives at principal places West at
 same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives
 at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN from the West, leaving
 Pittsburg at 4:20 p.m.; passes Harrisburg at 3:00 a.m.;
 Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at
 7:09 a.m. Through cars from Pittsburg to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pitts-
 burg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Read-
 ing at 10:52 a.m.; Allentown at 12:22 p.m.; Easton at
 1:11 p.m. Through cars from Pittsburg to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing
 Reading at 10:40 a.m.; Allentown 12:20 p.m.; Easton
 at 1:35 p.m. Through cars from Harrisburg to New York.
 Arrives in New York at 5:20 p.m.

2:10 p.m.—FAST MAIL, from the West, leaving Pitts-
 burg at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Read-
 ing at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at
 7:20 p.m. Through cars from Harrisburg to New York
 Arrives in New York at 6:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO

ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI**RAILROAD.****Three Through Trains Daily.**

	Leave.	Arrive
St. Louis & Chicago Ex.....	7:00 A. M.	9:10 A. M.
Springfield & St. Joseph Ex.....	12:00 P. M.	4:30 P. M.
St. Louis & Chicago Ex.....	4:55 P. M.	12:15 A. M.

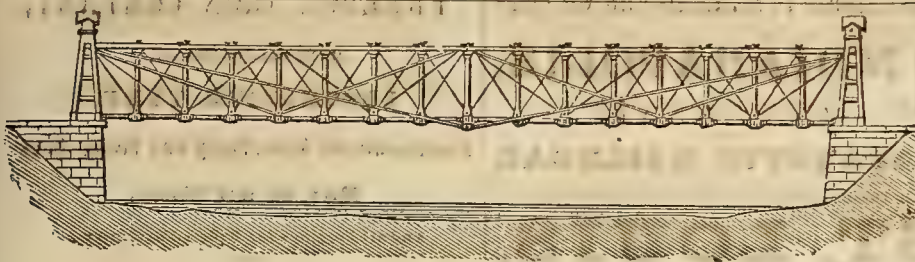
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Ac- commodation.....	5:15 P. M.	5:05 A. M.
Harrison Accommodation.....	10:10 A. M.	2:25 P. M.

Through Tickets can be obtained at the Burnet House-
 Spencer House and Gibson House offices; also at the
 Depot. The Passenger Depot of the Indianapolis & Cin-
 cinnati Railroad is within a few squares of all the pri-
 cipal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
 F. B. LORD General Ticket Agent.



(Plan of Bridge)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 1300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

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M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philade. phia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pairs of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail and work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunity of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings, every description of Copper, Sheet Iron and Boiler Work; and every article pertaining to the repair or renewal of Locomotive Engines.

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INSTRUMENT MAKERS

Philadelphia, Pa.

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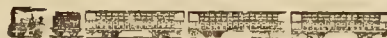
Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

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Pittsburg, Pa.

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OIL LANDS,

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CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

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SUPPLIES,

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MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

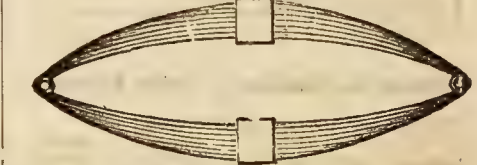
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PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

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No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.

Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

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Railroad Cars

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ORDERS executed promptly for the best material, and for the shortest notice, and on the most reasonable terms.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner, on the shortest notice, and on the most reasonable terms.

GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

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BALTIMORE,**PHILADELPHIA,****NEW YORK, and
BOSTON,**

WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**From Cincinnati and but ONE CHANGE to
or Columbus to **Baltimore** and but ONE
Philadelphia and New York.Ask for **TICKETS** and **BAGGAGE CHECKS** via **Baltimore & Ohio R.R.****J. L. WILSON, Master of Transportation.****L. M. COLE, General Ticket Agent.****G. B. GIBSON, General Western Passenger Agent.****Cincinnati, Hamilton & Dayton Railroad.**

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit..	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail..	7 00 A. M.	5 25 P. M.
Richmond & Chicago..	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond..	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada..	6 00 P. M.	10 30 A. M.
Hamilton Accommodation..		6 45 A. M.
Richmond & Chicago..	7 00 P. M.	9 20 A. M.
Hamilton Accommodation..	7 00 P. M.	7 55 A. M.

Trains run **SEVEN MINUTES FASTER** than Cincinnati time.

For all information and through tickets, please apply at head office, south-east corner of Broadway and Front; Bureau House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.

Omnibuses call for passengers.

JANUARY 5th, 1868.**Cincinnati to St. Louis Without
Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive OGIN,	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "

Trains Arr. at Cincti, 6 10 a.m. 11 30 p.m. 12 00 m.

For tickets, or information apply at Offices, 132 Vine street, Corner Front and Broadway; and at Depot, Foot Mill Street.

C. E. FOLLET Gen. Passenger Agent
J. W. UNLOQUE,
General Superintendent.**Best Route to St. Louis and Chicago****INDIANAPOLIS,
CINCINNATI**

-AND-

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

**ST. LOUIS,
CAIRO,
CHICAGO,**

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West, North west and South-west.

5 THROUGH TRAINS DAILY,

(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express...	7.00 am	10.50 pm
Indianapolis and Cairo Express.....	6.00 am	2.30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago

Elegant Sleeping Cars on all night trains.

ACCOMMODATION TRAINS.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.0 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.0 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.**A. E. CLARK, General Ticket Agent.****MOSELEY'S WROUGHT IRON ARCH****BRIDGES,**

AND

CORRUGATED IRON ROOFS

[ARCHED AND FLAT.]

**CORRUGATED SHEETS, OF ALL SIZES, CONSTANTLY ON HAND, PAINTED, AND READY FOR SHIPMENT, WITH INSTRUCTIONS FOR APPLYING THEM.****MOSELEY & CO.**
Boston, Mass.**EDWIN J. HORNER,**

Successor to

McDANIEL & HORNER,**Locomotive and Railroad****CAR SPRING MANUFACTURER****Wilmington, Delaware****FREEDOM IRON COMPANY,**

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engines and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn**JOHN A. WRIGHT, Sup't.**This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works
June 9**THE SCHENECTADY****LOCOMOTIVE WORKS,****SCHENECTADY, N. Y.,**

Continues to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING**LOCOMOTIVE ENGINES**

AND OTHER

Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding their work to any part of the country without delay.

JOHN ELLIS, President.**WALTER McQUEEN, Sup't.****PASCAL IRON WORKS.**

ESTABLISHED 1821.

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MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.**Wrought Iron Welded Tubes**—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas Water, or other purposes, and fittings of every kind to suit the same.**Wrought Iron Galvanized Tubes**—strong and durable, designed especially for Water purposes.**Cast Iron Gas or Water Pipe**—1½ to 34 inches in diameter, and branches for same, &c.,
Gas Works Castings, etc., etc.**PHILADELPHIA.****STEPHEN MORRIS,****THOS. T. TASKER, JR.,****CHAS. WHEELER****S. F. M. TASKER****WY. G. MORRIS.****Philadelphia, Wilmington & Baltimore****RAILROAD!****FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. (Express); 2.30 P. M.; 11.30 P. M. night.
On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.30 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave all time for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD, }
T. WRIGHTSON. } Editors

CINCINNATI:
THURSDAY, JUNE 17, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 1.00
" " per month.....	3.00
" " six months.....	12.00
" " per annum.....	90.00
Column, single insertion.....	5.00
" " per month.....	10.00
" " six months.....	40.00
" " per annum.....	80.00
Page, single insertion.....	15.00
" " per month.....	25.00
" " six months.....	110.00
" " per annum.....	200.00

Cards not exceeding four lines, \$5.00 per annum.
WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

ERIE, AND ATLANTIC & GREAT WESTERN.
Morning Express leaves 6:00 A. M.; arrives in New York 3:15 P. M., next day.
Fast Express leaves 9:15 P. M.; arrives in New York 7:00 A. M. second morning.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	3:15 P. M.
Fast Line.....	4:00 P. M.	10:00 P. M.
Lightning Express.....	10:00 P. M.	6:00 P. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:30 A. M.
Hillsboro Accommodation.....	3:40 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:55 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.)...	6:40 A. M.	5:25 P. M.
do do	9:15 P. M.	6:30 A. M.
Toledo, Detroit & Canada.....	6:15 A. M.	10:25 P. M.
do do	7:00 P. M.	7:25 A. M.
Lima, Ft. Wyne & Chicago.....	6:15 A. M.	10:25 P. M.
do do	2:30 P. M.	6:40 P. M.
do do	7:00 P. M.	7:25 A. M.
Sandusky, Cleveland & Buffalo.....	6:15 A. M.	6:40 P. M.
do do	7:00 P. M.	10:10 A. M.
Cincinnati & Indianapolis.....	6:15 A. M.	10:25 P. M.
do do	2:30 P. M.	4:15 P. M.
Connersville & Newcastle.....	6:00 P. M.	10:20 A. M.
Hamilton, Eaton & Richmond.....	6:15 A. M.	10:25 P. M.
do do	5:00 P. M.	10:26 A. M.
Hamilton Accommodation.....	9:30 A. M.	8:05 A. M.
do do	6:00 P. M.	6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION

Connersville, Rushville and Indianapolis Mail.....	6:15 A. M.	10:20 P. M.
St. Louis and Indianapolis Exp.....	2:30 P. M.	4:15 P. M.
Cambridge City and Newcastle.....	6:15 A. M.	10:10 A. M.
Cambridge City and New Castle.....	6:00 P. M.	10:25 P. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	6:00 A. M.
New York Express.....	10:00 P. M.	5:00 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	8:45 A. M.
Springfield Express.....	3:40 P. M.	8:48 P. M.
St. Louis Lightning Express.....	11:00 P. M.	1:15 A. M.
Lawrenceburg Accommodation.....	10:00 A. M.	2:35 P. M.
do do	4:45 P. M.	8:10 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	3:48 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:00 A. M.
Harrison Accommodation.....	6:05 P. M.	6:42 A. M.
Chicago and Cambridge City.....	6:30 P. M.	10:15 P. M.

OHIO AND MISSISSIPPI.

For St. Louis, Cairo.....	7:00 A. M.	6:00 A. M.
Evansville and Louisville.....	5:10 P. M.	9:40 P. M.
do do	10:15 P. M.	11:15 P. M.

Only Sunday trains are 5:10 P. M., leaving, and 6 A. M. arriving.

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

Cincinnati Southern Railway.

No large city was ever known to exist without having some special advantages, either as a commercial mart, or as a manufacturing center. To be a successful competitor in either, the aspirant for fame or profit must possess natural as well as artificial avenues through which commerce may flow, and advantages either in the purchase of goods or the control of the markets. Or in other words, the dealer and consumer must be brought into a sort of close communion. Of what value would be the manufactures of Birmingham and Sheffield were it not for the facilities of sending them to the great markets and consumers of the world; or of the millions of surplus products of our own great West, if we had not the means of sending into the open mouths and empty stomachs of the Eastern States and Europe.

Taking this view of the question, and it is the true one, it must be self-evident to every mind, that the more avenues, either natural or artificial, that we possess for commerce and intercourse with dealers and consumers of our products, the more extended will be our market, and the greater will be the demand for our wares.

Now what is the real truth as to the necessity for the construction of the Cincinnati Southern Railway? Why it is this—there is a district of country embracing nearly the entire Southern States to which we have either no access whatever, or a very imperfect and round-about way of reaching it, and the produce and manufactures of Cincinnati are forced to pay transportation tribute to long lines of railway and other means of transit before it reaches its destination. To illustrate what we mean, the people of Anderson, S. C. eat Cincinnati flour and Cincinnati bacon, which are now shipped by rail to Baltimore 589 miles, then down the Chesapeake and the Atlantic coast to Charleston, about 650 miles, and afterwards by rail 257 miles. The result is, as stated by Mr. LAFITTE, the gentlemanly merchant delegate of Charleston, S. C., to the meetings held at our Board of Trade rooms, that flour selling in Cincinnati at \$1.75 to \$5.25 per barrel, commands \$11.00 to \$12.50 per barrel in Anderson, which is a tariff of \$6.25 to \$7.25 per barrel for transportation and commissions. The cost of carrying a barrel of flour to Baltimore by rail, 589 miles is just 60 cents, it is scarcely necessary to say that on the Cincinnati Southern Railway and connections it could be transported the distance to Anderson 465 miles as cheaply or for less than to Baltimore, leaving a clear margin to either the producer or consumer, of from \$5.65 to \$6.65 per barrel.

The same is true of all other produce.

The dealers of Knoxville buy stoves in Troy, N. Y., and carry them 990 miles by rail; whereas if the Cincinnati Southern Railway was made, the distance would be but 270 miles,

giving 720 miles of transportation in favor of Cincinnati manufactures.

Mr. Lafitte stated in the Board of Trade rooms that the South needed one million stoves to-day.

What is true of stoves applies with equal force to all manufactured articles of which the South now stands in need. The South presents an open market for our wares in which Cincinnati would have by the Cincinnati Southern Railway the advantage of the short route and cheap fares.

In one word, by the construction of the Cincinnati Southern Railway we commercially conquer 200,000 square miles of market, and make customers of 4,000,000 of People.

This is not all. It is said to be a poor rule that don't work both ways. The construction of the Cincinnati Southern Railway, will bring us, by the same advantage of cost of transportation to the above, rice, sugar, coffee, cotton and tropical fruits on better terms than they can now be had, and enabling Cincinnati to supply the markets of the North-west with those articles; thus again extending the area of her traffic over a field now in a great measure barred to her enterprise by cheaper freights from other points.

We will not have to wait until the road is finished to feel its influence on the traffic of the city. The expenditure of ten millions of dollars in construction of the road must necessarily give an impetus to the manufacturers, in the production of the various articles used in the construction and equipment of a first-class road that must enliven the merry ring of the hammer and increase the hum of busy lathes and these again react on every other department of industry.

Unless we have misunderstood the character, and overrated the intelligence of the workingmen of Cincinnati, the vote on the 26th "For Providing said line of Railway," will be so nearly unanimous that the minority will be sorry they had not voted that way too. Let us hear from the masses.

CHICAGO, CINCINNATI & LOUISVILLE RAILROAD COMPLETED.—Laporte, Ind., June 17.—The Chicago, Cincinnati & Louisville Railroad, extending from this city to Peru, is completed. The Company will commence running passenger trains on Monday, June 27th.

The road opens a new route to Chicago, Indianapolis and the South, in conjunction with the Michigan Southern Road, from Chicago and Indianapolis, and Peru & Chicago Road from Indianapolis.

Chicago, Cincinnati & Louisville Railroad. This is clearly such a ridiculous misnomer that it can scarcely have the desired effect, deception. It is to connect Laporte with Peru two comparatively small towns of Indiana; but to give it a high sounding title, and character to its securities, it by name, is made to unite Chicago with both Cincinnati and Louisville. We are astonished that they did not christen the baby, "London, New York, San Francisco, Pekin and Paris Grand Continental and Trans-oceanic Railway."

Physical Survey of Virginia, and its Commercial Advantages.

BY M. F. MAURY, L.L.D.

Mr. Maury is one of the gentlemen, who having enjoyed great official benefits from the United States Government, and being in a most important scientific position, nevertheless thought proper to go into rebellion, and has now the consolation of being in comparative retirement at Lexington, Virginia. He is, however, really a man of science, having contributed no little to the general information upon Physical Geography. The pamphlet before us, is a very intelligent demonstration of the immense advantages of Virginia, not only in natural resources, but is holding a sort of Gateway between the Atlantic and the Great Valley of the West. She certainly does hold the gateway, and yet, so successful have New York and Philadelphia been in consequence of their great capital, in making canals and railroads to the North, that we have almost lost sight of the great fact, that the shortest and best communication between the Atlantic and the Valley of the Ohio, is from Chesapeake Bay to the Ohio. This is, however, not a new idea. Gen. Washington first proposed it, and it was considered his pet scheme for the development of the resources of Virginia. That eminent engineer, Col. Chas. Ellett, Jr., furnished very valuable and interesting papers in reference to it some ten or twelve years ago. The Chesapeake and Ohio Railroad, now in course of construction, is planned with reference to this connection, and will be the great enterprise of the age. We propose here to do no more than state some of the leading facts, furnished by Mr. Maury. We begin with the statement of the shortest lines:

1. Distances from the West to New York and to Norfolk by various routes.

GREAT CIRCLE OR AIR LINE DISTANCES (COMPUTED BY CAPT. BROOKE, V. M. I.)

	To New York.	To Norfolk.	Difference by Air Line in favor of Norfolk.
--	--------------	-------------	---

From	Miles.	Miles.	Miles.
Omaha.....	1,149.7	1,101.3	48.4
Kansas City.....	1,095.6	1,008	87.6
St. Louis.....	878	775.6	102.4
Grafton.....	890.7	794	96.7
Cairo.....	859.7	719.3	140.4
Cincinnati.....	566	471.8	94.2
Chicago.....	709	694	15
Memphis.....	935	778	177
New Orleans.....	1,168	925	243

It seems that Cincinnati is 100 miles nearer on an air line to Norfolk, than to New York; but it is claimed that the water lines by the Lakes, and the Gulf voyage are many hundreds of miles farther to New York, than will be the Virginia line, by the James River and Kanawha Canal, if completed; and the water line is the cheapest.

2. Mr. Maury gives the following view as the Internal Improvements of the State.

*Railroads of Virginia completed, with the Length of the Main Line; Cost of Construction and Equipment; Date of Charter, and the Counties through which they pass.**

No.	Name of Road & Counties, and Date of Charter.	Length. Miles.	Cost. Dollars.
1.	Alexandria, Loudoun and Hampshire, Mar 15, 1853, completed to Leesburg, passes through the counties of Alexandria, Fairfax, and Loudoun.....	37.5	1,538,744
2.	Chesapeake & Ohio (Louisiana road), February 18, 1836; Virginia Central, Mar. 5, 1849; Chesapeake and Ohio, March 1, 1867, completed to Covington; passing through Henrico, Hanover, Louisa, Orange, Albemarle, Augusta, Rockbridge, Bath, and Alleghany.....	204.9	6,090,140
3.	Clover Hill, February 5, 1841; from the Clover Hill coal pits to Osborne's, opposite Dutch Gap, on James River, in Chesterfield.....	21	310,00
4.	Norfolk and Petersburg, March 17, 1851; Norfolk, Nansemond, Isle of Wight, Surry, and Prince George.....	81	2,353,857
5.	Orange, Alexandria and Manassas; Orange and Alexandria, March 27, 1848; Orange, Alexandria, and Manassas, February 14, 1867; Fairfax, Culpepper, Orange, Prince William, Fauquier, Albemarle, Nelson, Amherst and Campbell, Warren and Shenandoah: To Lynchburg..... To Mt. Jackson.....	148.3 77.7	7,182,012 3,322,165
6.	Petersburg, February 10, 1830; Dinwiddie, Sussex and Greenville: To Weldon..... To Gaston.....	61 18	1,411,762
7.	Piedmont, Mar. 27, 1862; from the Dan River bridge, on the Richmond and Danville Railroad to the North Carolina line (extended to Greensborough, North Carolina.) Pittsylvania.....	6.3	177,354
8.	Richmond and Danville, March 9, 1847; Chesterfield, Powhatan, Amelia, Nottoway, Prince Edward, Charlotte, Halifax, and Pittsylvania.....	140.5	4,929,000
9.	Richmond, Fredericksburg, and Potomac, February 25, 1834; Henrico, Hanover, Caroline, Spotsylvania, and Stafford.....	75.5	2,297,932
10.	Richmond and Petersburg, March 14, 1836; Chesterfield.....	22.2	1,011,754
11.	Richmond and York River, January 31, 1853; Henrico, New Kent, and King William.....	38.3	1,055,286

12.	Seaboard and Roanoke, Portsmouth & Roanoke, March 8, 1832; Seaboard & Roanoke, February 27, 1846; Norfolk, Nansemond and Southampton..	80	1,797,787
13.	Southside, March 5, 1846; Prince George Dinwiddie, Lunenburg, Nottoway, Prince Edward, Appomattox, Campbell, and Amherst.....	123	3,673,635
14.	Virginia and Tennessee, March 24, 1848; Campbell, Bedford, Roanoke, Montgomery, Pulaski, Wythe, Smyth, and Washington.....	204.2	7,190,550
15.	Winchester and Potomac, April 8, 1831; Frederick, Clarke, and Jefferson.....	32	906,353

Total length in miles and cost 1,371 4 45,248,331

Thus it appears that the average cost of railways in Virginia is \$32,994 per mile: whereas the like cost in Maryland, Pennsylvania, New York, and the Middle States is about \$53,000, and in England \$175,000.

Of the projected railroads we need only mention those connected with the Ohio Valley:

No.	Approximate Length.	Capital.
1.	Alexandria, Loudoun, and Hampshire; 95 miles to be extended from Leesburg to the Potomac River at or near Paddytown.....	\$1,800,000
2.	Chesapeake and Ohio; to be extended 225 miles from Covington to the mouth of the Big Sandy River. To be completed to the White Sulphur Springs by July, 1869.....	26,600,000
3.	Clinch Valley; 125 miles from a point on the Chesapeake and Ohio Railroad, near the mouth of the Greenbrier River, to a point on the Virginia and Kentucky Railroad, in Scott county.....	2,000,000

We thus find the great Chesapeake & Ohio Railroad to be composed as follows:

Chesapeake and Ohio Railroad completed to Covington.....	Miles.	Cost.
	204.9	\$6,090,140
Chesapeake and Ohio Railroad to be extended to the Mouth of the Big Sandy.....	Miles.	Cost.
	225	26,000,000

When completed..... 429.9 \$32,090,000

This will be a very expensive road; but we understand that arrangements have been made for its completion. Counting 140 miles of Railroad from Cincinnati to Big Sandy, this will make the Railroad distance but 570 miles to Norfolk, or only 100 miles over the air line. That such a road, once made, will not only furnish a new outlet to the Atlantic, from the Ohio Valley, but will make a great change in the lines of commerce, we have no doubt. Great as will be the cost of the Virginia Line completed to the Ohio River, we believe it will be paying capi-

tal, and probably the best investment in the new railroad.

3. We need not here make a table of water communications in Virginia. It is well known that the James River and Kanawha Canal is one of the most useful and valuable works of water navigation in the country. We extract a portion of Mr. MAURY'S view of the results, which he supposes will arise from the completion of the canal to the Ohio:

THE VIRGINIA WATER-LINE.

As between Sandy Hook and Hampton Roads, the natural position of the Chesapeake Bay makes this line the nearest passway to the sea from all the States and Territories of the Upper Mississippi, west of Ohio and south of Montana. The completion of the James River Canal from Richmond to the Kanawha River, with a capacity as great as the drainage and feeders of the country will sustain, will make tributary to Virginia waters, the whole of the hydrographic basin of the Missouri as far as the Rocky Mountains, and of the Upper Mississippi as far as the falls of St. Anthony.

This line will open water communication from Fort Benton, 3,100 miles above the mouth of the Missouri, all the way to the mouth of the Chesapeake Bay. All this is river navigation except 400 miles of canal. It is marked on the map.

Thus our water-line and Coosa route show that the Chesapeake Bay is set midway the Atlantic coast, like a funnel in the ocean, through which these two lines of improvement will enable all this vast extent of country to pour its commerce, and reach the markets of Europe cheaper and more safely than it is possible to do by any other route.

The valley States that are chiefly interested in this route are West Virginia, Ohio, Kentucky, Indiana, Illinois, Wisconsin, Minnesota, Nebraska, Iowa, Missouri, Kansas, etc.

This line is partly constructed and in operation by rail and canal. The Chesapeake and Ohio Railroad is intended ultimately to reach the Ohio River; it is in operation with a single track from Richmond to Covington—205 miles. Thence a section of 20 miles in length is under contract to be finished next summer as far as the celebrated White Sulphur Springs, the fashionable watering-place for the South, and the most charming place of summer resort in the whole country.

This single track has to be extended 200 miles further, in order to reach the Ohio River. For the means required to do this, a loan of \$10,000,000 is now under negotiation, and the whole road from Richmond to the Ohio, with all its property and franchises, is pledged as a first mortgage to secure lenders.

This road runs through a country beautiful, fertile, and rich in coal and iron, salt and petroleum, and other valuable minerals.

We may close this analysis of Mr. MAURY'S pamphlet with the following view of the principal competing harbors of the Atlantic:

NATURAL POSITIONS OF NORFOLK AND NEW YORK.

Geographically considered, the harbors of Norfolk or Hampton Roads and New York occupy the most important and commanding position on the Atlantic coast of the United States. They are more convenient to the ocean than Baltimore, Philadelphia, and Boston are, because they are not so far from the sea.

Depth of water that can be carried out, and distance of the sea from

Hampton Roads,	dist	15 miles,	depth	*30 ft
New York,	"	30 "	3½ fth.	23 "
Boston,	"	100 "	3½ "	23 "
Philadelphia	"	100 "	3½ "	23 "
Baltimore,	"	160 "	2½ "	16 "

Between the two last and the sea there is a tedious bay navigation, but each of the first two is situated upon a well-sheltered harbor that opens right out upon the sea with beautiful offings, those of Hampton Roads surpassing the others in all the requirements of navigation both as to facility of ingress and egress, certainty of land fall, depth of water, and holding ground.

Commercially, also, these two harbors occupy the most choice positions with regard to the back country—positions which give them more natural advantages as the great outlet for our trade and commerce than those that are offered by any other of our seaport towns on the Atlantic ocean.

These advantages grow not only out of the conveniences they possess as havens of the sea, but also out of their geographical position upon its shores, their river systems and hydrographical connections, as well as their situation with regard to the back country that is naturally tributary to each.

New York has made the most of her geographical position and hydrographical relations, and, by availing herself of the advantages offered by them, has made herself, according to the prophecy of the old physical geographer of Louisa, the commercial emporium of the New World. Her internal improvements have done this for her. But they no longer satisfy either the demands of the people, the wants of the West, or the requirements of commerce.

The Memphis, El Paso & Pacific Railroad.

On Saturday General John C. Fremont, accompanied by James M. Daniel, engineer-in-chief of the Memphis, El Paso and Pacific Railroad, left this city for France, on business for the company, whose Texas land grant bonds for \$10,000,000 have been so successfully negotiated in the French market through his instrumentality. Mr. Daniel accompanies him in order to personally inspect the material for the construction of the road ordered in France, which is already completed and ready for delivery. We learn by the *Tribune* of yesterday that the managers of this important enterprise have recommenced operations on the road, independent of Congressional aid, and have advertised for proposals for putting the first three hundred miles in running order by October, 1870. The remaining five hundred and thirteen miles of the main trunk in Texas, as well as about two hundred miles of its arm from the Brazos River to Marshall, running on the thirty-second Parallel, and also two hundred miles of the Pacific Division of the road, between San Diego and Fort Yuma, the company expect to construct and complete within three years. An efficient representative of the company, Gen. Morton C. Hunter, late member of Congress from Indiana, is on his way by rail to San Francisco, to start operations from San Diego, under the superintendence of Col. Thomas S. Sedgwick, engineer for the Pacific Division of the road. The company intend soon to bring their lands in Texas, as well as around the Atlantic terminus on the harbor of Norfolk, and the Pacific terminus on the harbor

of San Diego, into the market. The company are now receiving proposals for the construction, by contract of the following portions of the road. First, the last fifteen miles on the First Division of one hundred and fifty miles, between Jefferson and Paris, Texas, commencing eight miles east and extending seven miles west of the town of Clarksville, in Red River County. Second one hundred and fifty miles, embracing the Second Division, commencing at Paris and extending westward to Palo Pinto County. The bids for proposals specify that the first section must be completed by March 1, 1870, and the second by Oct. 1, 1870. Every facility will be furnished those wishing to inspect the ground on the line of the road, by application in person at the engineer's office in Jefferson.—[New York Commercial Bulletin.

This corresponds with the statements made at the Memphis Convention, that this road, on the line of the 32d parallel intended to push forward the construction of their road without Government aid, relying solely on the grant under their charter made by the State of Texas.

Surely the whole country can but wish them success. The construction of a railroad on this line will open up the whole of Texas and the Valley of the Rio Grande to settlement and traffic; it would be the greatest *stock road* in the country and would do more to cheapen food than half a dozen lines of railroad located on the route of the Union Pacific. It would reduce the price of fresh beef in the New York market nearly ten cents a pound. It can be operated all the year round, is perfectly free from snow, will settle the Indian question, develop more mineral wealth in twenty years than will pay the National debt; it has lower grades and less curvatures, and is by two or three hundred miles the shortest route between New York, or even Chicago, and the waters of the Pacific. Besides, if no aid is asked from the Government, there can not be a ghost of a chance to charge them with robbing the public Treasury.

WHAT IS NOT BAGGAGE OR LUGGAGE.—The Court of Queen's Bench has decided in the case of *Hudson vs. the Midland Railway Company*, that a spring-horse weighing seventy-eight pounds, and forty-four inches in length is not personal luggage. The plaintiff maintained that he had a right to carry one hundred and twelve pounds of luggage, and that this toy, which was for use in his family and was not merchandise, he was entitled to carry free of charge. The County court judge at Derby gave judgment for the Company, and the court affirmed the ruling the judge. Mr. Justice Lush said:—The regulation was that passengers should carry a certain weight of luggage, not being merchandise or other articles carried for hire or profit, free of charge. This was an article called a child's toy. It was a spring-horse substituted for an improved rocking-horse, and could not come within the meaning of a toy, which was something to be carried in the hand; nor that of personal luggage in the sense he had mentioned—viz., that description of luggage which passengers usually carry.—*London Railway News.*

Pacific Railroads.

Jay Cooke & Co. have nearly completed arrangements for selling the bonds of the Northern Pacific Railway and contract for the construction of the road. They will probably begin advertising the bonds in a few weeks, and it is understood surveying parties will go to work immediately.

We clip the above from the telegrams of the daily press. It sounds like business. The Northern Pacific Railroad, with its magnificent "land grants," across the best portion of the continent has abundant security for all the money necessary for its construction. The only difficulty is to convince capitalists of this fact. The real truth is that to-day the Northern Pacific Railroad has a better and broader basis of security for its bonds to rest upon, than the Union had with its guaranty by the Government. Not that we lightly estimate the Government endorsement; by no means. That was a backing that is current everywhere. The road as a property will, however, have to ultimately pay them, as a large portion of their lands are worthless. Not so with the lands of the Northern road, for they are nearly all good, and the company has a grant of double quantity. By adopting a judicious and energetic system of putting these land bonds upon the markets of Europe and this country, as fast as the construction of their road renders them accessible, with but a limited actual investment of cash in the stock of their company the road can be built, and the lands eventually pay the cost, and give them the road clear. More difficulty, however, will be experienced in popularizing the bonds, than was met with in the case of the Union and Central Pacific. We are glad to see that this enterprise has fallen into strong hands, and that while Jay Cooke & Co. are selling the "railroad bonds," which are a *lien upon the road*, as fast as construction progresses, and the Company gets title to their land, they will push forward a liberal scheme for their land bonds in Europe, where they will meet with ready sale, and add largely to the tide of emigration and business on the line of their road. We trust that the progress of its construction may be as rapid and successful as the route just completed.

In this connection we will remark that we should not be surprised to hear next that T. C. Durant, late Vice President, and the builder of the Union Pacific road, had become officially connected with the Northern Pacific and would have charge of the work of construction. The whole country would respond. "So mote it be!"

PAINESVILLE, VIENNA AND PITTSBURG RAILROAD Co.—Columbus, June 15—1 P. M.—A certificate of incorporation of the Painesville, Vienna and Pittsburg, R. W. Co., capital \$2,000,000, was filed with the Secretary of State this morning. The proposed road commences at Painesville, Lake county, and terminates at Brookfield, Trumbull county.

Arizona.

An Army Wagon Train Captured—Our Loss Three Killed and Three Wounded—Indians Capture a Herd of Two Hundred Cattle—Necessity for Protection.

SAN FRANCISCO, June 12.—Late Arizona advices state that about 300 Indians recently attacked a train of nine wagons, laden with Government stores for Camp Grant. After ten hours resistance, the teamsters were joined by a small force of soldiers, but the Indians compelled them to abandon the train, with a loss of three men killed and three wounded. The Indian loss is unknown. Soon after capturing the train, the savages set fire to the wagons and destroyed them. Their contents were valued at not less than \$20,000. Upon receipt of the news at Tucson, troops were sent in pursuit of the Indians, but the search was fruitless.

A large party of savages made a decent upon a herd of two hundred cattle, belonging to a Frenchman named La Seard, drove off the herders, and captured the entire lot.

Only sufficient troops remained at Camp Powell to garrison the post, and no immediate pursuit could be made.

Unless greater military protection was soon afforded the settlers, the country would be abandoned to the Indians.

This is a story not only twice told, but repeated for the thousandth time. It is a standing disgrace to civilized humanity that the several handfulls of organized banditti known as the Apache tribes of Indians should be allowed to traverse and lay desolate so extensive and valuable a tract of country as is at present roamed over by those cowardly and despicable savages. For bravery, noble bearing, splendid physique, eloquence, wisdom in council, or talent in the art of war, we may have respect and admiration in a savage—a Tecumseh, an Ocoela or a Black Hawk,—but for the sneaking, cowardly hounds of Apaches, without the first spark of humanity in their nature, utterly soulless, and without instincts except those possessed in common with the wolf, which brute they most resemble in their natural characteristics, we say it is a disgrace to the civilization of the nineteenth century that they are allowed to cumber the earth. England did not hesitate to crush out a Theodore, whose crimes against her citizens were as the "small dust of the balance" compared with the iniquity of these "untutored sons of the forest"—these noble "red men." Strange what "bowels of compassion" we have for these "gentle savages" that we should treat, and feast, and "quaker" them continually, while we ignore the suffering, the hardships and death of innocent children, intelligent women and the brave and hardy pioneers of our own race. We guarantee there is no nation on the face of the earth would tolerate it for one moment except our own. For fifteen years these outrages have been repeated almost daily, and the cry of innocent blood for vengeance on these "hell-born hounds," has continually sounded in the ears of the American people and high heaven; if our government is too weak or pusillanimous to

grant it, it would be a mercy that the whole infested land should be sunk in the bottom of the Pacific ocean, rather than the disgrace of inability or failing to protect the lives and property of citizens should be longer propagated.

Chicago, Rock Island & Pacific R. R.

The annual report for the year ending March 31st shows the following:

The gross earnings for the year amount to.....	\$5,231,979 75
The operating, legal expenses, taxes, &c., are	2,523,880 61

Leaving net earnings.....	\$2,708,099 14
Paid dividends, interest and Peoria rent.....	2,262,520 29

Surplus earnings for the year.....	\$445,578 85
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The percentage of operating expenses to earnings, including local expenses and taxes, is 48 21-100 per cent.

The percentage of operating expenses to earnings, less local expenses and taxes, is 45 23-100 per cent.

The profit and loss account shows a credit balance for the year ending April 1.....	\$1,597,244 02
Deduct dividend paid April 10	735,000 00

Total.....	\$862,244 02
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Or a surplus of a little over 6 per cent.

The report estimates that the company will require the sum of \$3,448,120, to meet the payments falling due the next thirteen months, as follows:

Bonds of the Bridge Company due January, 1870, guaranteed by this Company	\$ 400,000
Bonds of the Chicago & Rock Island Railroad Company due July, 1870.....	1,397,000
One-half cost of building new bridge over the Mississippi river at the city of Rock Island.....	300,000
New freight buildings and additional track in the city of Chicago	770,120
New equipment	581,000

Total.....	\$3,448,120
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The balance sheet shows the company had on hand, and available, the following items, April:

Cash in Assistant Treasurer's hands.....	\$1,177,045 03
Bills receivable.....	289,070 00

Total.....	\$1,466,115 02
From which should be deducted the dividend paid April 10....	\$ 731,115 03

Since the date for which this report was made (April 1) the most of this balance, together with the current earnings, have been expended in paying the final estimates of the contractors and other expenses incidental to building and preparing for operating the new portion of the road between Des Moines and the Missouri river, so that the company, after providing for the payment of the July interest on their bonded indebtedness, will be virtually out of cash.

To raise these necessary funds, the company will either have to resort to an increase of its capital stock and the sale of the same, or a further issue of its mortgage bonds, either or both of which it is fully authorized to do.

The Kansas Pacific Railroad.

The report for 1868 furnishes the following: The company has 440 25.100 miles in operation, with depot property, improvements and equipments thereon. At the beginning of the year the main line was in operation to old Coyote station, 335 miles from State line. June 14, the road was opened to Monument, 385 miles; and August 16 was opened to Sheridan, near the North Fork of the Smokey Hill, 405 miles.

In operation January 1, 1868:

State line to Coyote.....miles.	335
Leavenworth Branch.....	31 80
Wyandotte Spur.....	1 75
State Line to Kansas City.....	1 70

Total..... 370 25

Added during the year:

Coyote to Sheridan.....	70
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Total..... 440 20

EARNINGS AND EXPENSES.

The following table gives an exhibit of business as compared with 1867:

	1867.	1868.
Average length of road operated.....	228 45.100	403 36.100

EARNINGS.

From Gov't. bus.	\$511,369 04	\$487,920 18
" Com.	1,071,883 44	1,263,165 53
" Contr's. frt.	250,968 14	145,384 73
" Misl's. sour's.	49,633 14	13,691 39

Total..... \$1,883,853 76 \$1,910,161 83

Operating expen. 1,227,618 69 1,036,494 20

Net earnings.. \$606,235 07 \$873,667 63

Per cent expenses to earnings..... 66 4.100 54 26.100

Earnings per mile..... \$4,795 65

Operating expenses per mile... 2,569 65

Net earnings..... \$2,165 98

The items of expense were:

Conducting transportation..	\$276,759 80
Motive power	416,207 20
Maintenance of cars.....	63,012 56
" " way.....	221,029 44
General expenses.....	59,488 23

TRAVEL AND TRAFFIC.

The total of passengers carried was 109,322—59,713 westward, and 40,619 eastward. Of the former 10,094 were immigrants settling in the State.

KENTUCKY CENTRAL RAILROAD.—New arrangements will go into effect on the Kentucky Central Railroad next Monday. On and after that date the morning passenger train will leave Covington at 7:10 A. M., reaching Lexington at 12:10 P. M., and Nicholasville at 1 P. M. The afternoon train will leave Covington at 2:45 P. M., reaching Lexington at 7:45 P. M., and Nicholasville at 8:58 P. M. The morning train from Lexington will leave that city at 7 A. M., arriving at Covington at 12 M., and the afternoon train will leave Lexington at 2:40 P. M., arriving at Covington at 7:30 P. M. By the above arrangement better connections will be made with trains arriving at and departing from Cincinnati.

Modern Engineering.

While Americans justly point with pride to the completion of the Pacific Railway as one of the greatest feats of engineering accomplished in modern times, and Europeans are congratulating themselves and the rest of the world on the near completion of the Suez Canal, there are some other works of importance already projected which claim attention. In fact, the principal difficulties in the accomplishment of the two immense works alluded to, consisted chiefly in their magnitude. Magnitude alone is not enough to deter modern engineering from attempting any work in this age of enterprise, and very few natural difficulties exist which it has not shown its ability to surmount. Fell's railway over the Alps, with its unparalleled grades, noticed in another column, and the Mount Cenis Tunnel, have demonstrated that the iron horse can overleap or break through almost any natural barrier.

A rival to the latter work in magnitude and difficulty is the Mont St. Gothard Railway, now in a fair way to early commencement. Prussia and Italy have given, through their ambassadors, to the Swiss confederation, assurance of their readiness to aid in the prosecution of the work, and a conference has been held at Lucerne to initiate operations.

At this meeting it was announced, by Dr. Alfred Escher, that the necessary capital would be obtained from the following sources: viz., Italy, £2,500,000; Switzerland, £2,000,000; thus making an aggregate capital of £6,500,000.

It is stated that the Italian projection of this road will be principally adhered to. This project includes a perfectly straight and nearly level tunnel of nine and one-fourth miles, which the contractor of the Mount Cenis tunnel has, it is said, offered to construct in eight or nine years, including steel rails, for £2,400,000.

The opening of the St. Gothard route will furnish an easy communication between Western Germany and Northern Italy.

Another work now under consideration by the municipal council of Bordeaux, spoken of by engineering authorities in Europe as the grandest, most important, and economical work proposed for centuries, is the cutting of a ship canal from the Bay of Biscay to the Mediterranean. The *Engineer* describes the route and its possibilities as follows:

"Let any one cast his eye over the map of France, and he will see that if a straight line be drawn from Bordeaux through Toulouse, it will touch the coast of the Gulf of Lyons not far from Perpignan. From Bordeaux to Toulouse the Garonne is a navigable river, so that over two-thirds of the line is a question of widening and correcting a waterway already in existence. From Toulouse to the Gulf of Lyons there exists the Canal du Midi, and by means of these an immense traffic is carried on between the southern and western departments of France. The line of water exists already, all that is required is to deepen and straighten it; and if this could be done in half the time mentioned at double the cost, it would be the most economical piece of work perhaps, that was ever executed." The projector of this work is M. Staal de Magnoncourt, and the work is estimated to cost 442,000,000 francs, or nearly \$88,400,000 in American gold. It is also estimated that it can be completed in six years. The completion of this work would afford a direct line of communication with India through the Suez

Canal, from any of the northern parts of Europe.

Thus modern engineering goes on, making the paths straight for advancing civilization, startling the wilds of the desert with the hum of industry, and making arid wastes to bloom. —*Scientific American.*

The Memphis and New Orleans Commercial Conventions.

Report of Geo. F. Davis, De'legate from the State of Ohio.

CINCINNATI, June 5, 1869.

Hon. R. B. Hayes, Governor of Ohio:

DEAR SIR: Having been officially appointed by you as delegate from the State of Ohio to the Memphis Commercial Convention, held May 18, I availed myself of the credentials you were kind enough to favor me with. The members of the Memphis Convention having received an invitation to attend a similar convention held in New Orleans on the 24th ult., I also attended that Convention, and assumed to represent the State there, also; and hope I did not presume on your intentions.

I can assure you that the effect of the appointment was good, as showing the interest of the Executive of our State in the concerns of the South.

I would avail myself of this opportunity to thank you for making me the bearer to the South of the kindly feelings of our State toward them, and of our anxiety to restore that section of our country to its full tide of prosperity. This feeling is more prominent with me, because of the cordial reception it assured me in both Conventions, showing an appreciation of your object in being represented. I would not be understood as implying by this that the Conventions needed aid from any particular portion of our country to make their deliberations effectual, for no one could look upon both Conventions and analyze the materials of which they were composed, without realizing that they possessed an aggregation of talent that would assure success in building up any department of industry or trade to which they may turn their attention. The Conventions were composed of representatives from the military, scientific, political, manufacturing, agricultural and transportation departments, and were mostly men of advanced years and experience.

The committees (where most of the deliberations upon the subjects brought before the Convention were necessarily had) showed in most cases an intimate knowledge of the subjects coming under their notice, and the general discussions evinced an earnest turn, which indicated good results from their deliberations.

The representatives were in earnest, and will succeed in their objects. And while I would express no opinions as to the right or wrong of a restricted franchise, and would do nothing to prevent a full return to political privileges at the earliest practicable moment, I can not but express the opinion that were these men of educated mind, or intellect trained to the working out of problems of science and political economy; men who have been arranging the physical forces in war in extensive campaigns, now devoting these powers to the planning and massing of the more useful forces of trade, commerce and agriculture—it would almost seem as though the States were compensated for the loss of political privileges by the greater gain commercially, in the talent turned to what will prove of better uses. It will be safe to predict that with the return of political privileges,

they will find their heritage of more value than ever before, and prize it accordingly. The South shows by her actions in these successive Conventions that she is arousing to a new existence, and there is no reason to doubt that the recent war will stand out prominently on the pages of history as the era of a better and more prosperous life. As the South has learned to rely upon herself, and by the high prices of produce in the North, has found it more profitable to raise a mixed crop, instead of confining herself wholly to cotton and sugar, the North is already realizing the loss of a good customer.

The profits from slavery always accrued to the North. The South owned the slaves, and raised a crop very advantageous to the country, especially as affording a large item of export, but during every year up to the beginning of the late war, they purchased an increased amount of manufactures and produce from the North; and there is no doubt that we will be great losers by the transition from slave to free labor.

If we can believe the universal testimony of Southern people, they do not wish to have the institution of slavery restored. They are satisfied in this respect with the result of the war; and I believe, viewed from a selfish standpoint, more persons could be found in the North favorable to the restoration of slave power, than in the South. This may seem a strange assertion, but I believe it to be true. There is no doubt that the abolition of slavery will prove a blessing eventually to the whole country, but it will take several years for the various industries to adapt themselves to the change. While the South had the monopoly of cotton-raising, the high price of the staple justified her in raising an exclusive crop; now, however, with the large plantations divided into small farms, the scarcity and uncertainty of labor, the loss of a large portion of the superior alluvial lands of the Mississippi by inundation, the competition caused by the efforts of England to stimulate the raising of cotton in the East and West Indies, Egypt and South America, the cultivation of this great staple will be of more uncertain tenure, and can not be relied upon, and I think for a time the North will have to seek other markets for her produce, until the South shall recover her position, and develop her resources to an extent that shall react upon her again. Hence it is, with these views, I consider every question coming before the late conventions as indirectly, if not directly affecting the North. The help the South needs is to regain her supremacy as the best cotton-growing region in the world. The one thing most important is to help her reclaim the rich bottom lands subject to inundation, which produce two and three times the amount of cotton per acre that can be raised on the higher and thinner lands.

To do this the Mississippi must be confined within bounds by a system of cut-offs and outlets, combined with levees, or by the latter alone, and under one general system by competent engineers, so the planter may be safe in the possession of his lands. To do this the States interested should have temporary assistance from the General Government, and it will richly repay the investment. The South needs more and cheaper labor, and, therefore, immigration should be encouraged. If the North is compelled to seek new markets for her surplus produce, then she is directly interested in the question of cheap transportation. The present rate of freight from the Northwest to the East is so oppressive that measures are being inaugurated for forwarding grain, in

bulk, *via* river and gulf to the Eastern cities and Europe; and elevators are being erected at convenient points in furtherance of the object. The surprising statement is made that grain can be shipped from our upper rivers, *via* New Orleans, and laid down in Liverpool at the same rate of freight and charges that it now costs to send it from the same points *via* the Northern route to New York City. Hence the improvement of the navigation of the Ohio and Mississippi Rivers is of the utmost importance, and care should be taken, while natural obstructions are being removed, that no artificial obstructions should be placed upon them, hindering navigation, such as bridges, etc.

The bar at the mouth of the Mississippi is a very grave obstruction to navigation, and no doubt comes under the province of the General Government to improve, and should be persistently urged. The improvement more directly affecting our own State is the speedy completion of the canal at Louisville, and making it free from tolls. Cincinnati alone pays, during the busy season, an average of \$500 a day tax to this obstruction in the way of tolls alone; not counting the loss by the smaller class of steamers obliged to be used in navigation. It gives to the West a great advantage over us in cheaper transportation. Our representatives should never cease to urge this matter upon Congress as of vital importance to our State.

Some of the matters coming before the Convention caused very earnest discussion, mostly by reason of local benefits sought to be obtained, one of which was the route of a Southern railroad to the Pacific. It is hardly necessary that I should recapitulate the doings of the Convention, as they will soon be placed in your hands in published form.

The most pleasant feature of my visit is the testimony it enables me to bear to the evident good feeling these Conventions produce between different portions of our country, and to the absence of that bitterness of feeling toward the North of which we hear so much. A better day has dawned upon us in this respect; and the more the citizens of one section commingle with the other, the more evident it will become that we are one people. It may seem strange that the first real unity of feeling between the estranged sections of our country should be of those engaged in commercial pursuits, rather than among the Christian denominations and people of the land, and yet there has hardly been an exception to the rule, that from the day when Joseph was carried down to Egypt by the Ishmaelitic merchants to be the means of good to Israel, to the present day, commerce has been the forerunner of the church in carrying the tidings of peace and good will to men, and paying the way for a commingling of races and peoples otherwise estranged. Let it be so now, and these Conventions will perform a double mission of good for our nation. Let our men of practical thought lay hold with disinterested zeal, and bind our land together with the railroad and telegraph, until its borders, once so distant, shall be condensed so closely, that the magnitude of our domain shall be no longer our peril. Excuse me for saying so much, my report being rather thoughts suggested by the Convention, than an account of its doings.

With great respect, yours truly,

GEOR. F. DAVIS.

—Delaware has three whipping posts and one railroad.

The Development of Steam Locomotion on Railways.

[From the American Railway Times.]

Until 1813 or 1814 was the fixed opinion of engineers that there would not be sufficient adhesion of the plain wheels of an engine to plain iron rails for any useful purposes of propulsion, consequently many costly and complex devices were tried for surmounting this imaginary difficulty. In 1804 a locomotive engine was constructed and tried in South Wales, with double gearing and a fly-wheel, which drew some ten tons at the rate of five miles an hour. In 1811 another engine was tried near Leeds, in which the drivers were coggled on their periphery, and worked in coggled rails. In 1812 another device was tried for overcoming the imagined difficulty, which consisted of a continuous chain between the rails, working around a grooved wheel fixed to the engine shaft. In 1813 another contrivance made its appearance, which consisted of a pair of mechanical legs and feet applied behind the engine and worked by the piston rods, the feet acting upon the ground or rail, and thus pushing the engine along. Although these several methods of working an engine were practical for moderate speed, they were far from indicating any brilliant result.

About this time it began to be realized that the adhesion of the two plain surfaces of wheel and rail was ample for all the practical purposes of railway traffic. In 1814 Stephenson made a locomotive with four equal wheels, all drivers, and all keyed to their axles, each wheel having an outside crank, the wheels of the same axle having their cranks placed exactly in the same direction; but the cranks of the forward wheels were kept at right angles with those of the hind wheels by means of a chain belt. The two cylinders were placed vertically in the top of the boiler, one over the center of each axle. A cross arm was fixed to the top of each piston-rod and worked in guides, the arms extending beyond the guides to a point exactly over the cranks; the connecting rods were suspended from the ends of the cross arms to the cranks. But it was soon perceived that springs could not be used with vertical cylinders, because the action of the steam caused a violent vertical vibration of the whole engine.

In the spring of 1829, a new impulse was given to the development of the locomotive engine. The directors of the Liverpool and Manchester Railway offered a £500 prize for an engine which should best fulfill these conditions, viz., that it should produce no smoke, pressure not to exceed 50 pounds to a square inch, and draw at least three times its own weight, at the rate of ten miles an hour, for three hours. These were the chief conditions—there were some minor ones. The trial took place in October following, on a two-mile level on the Liverpool and Manchester Railway. The contesting engines were the "Rocket," by Stephenson, the "Sanspareil" by Hackworth, and the "Novelty" by Braithwaite & Ericson. The "Rocket" ran 60 miles, at an average of about 14 miles per hour, 29 miles per hour being its greatest speed. Owing to the failure of their machinery the other engines did not run out their 30 miles. The "Rocket" was a four-wheel, two-driver, outside connected engine, essentially the same in its general features as those made at the present time, with the exception that the fire-box was of cast iron, the wrought iron or cylindrical part of the boiler being about six feet long. Numerous small flues extended

through this cylinder to the smoke-box and chimney, as in the locomotives of the present day.

Among the improvements in the locomotive engine since the "Rocket" of Stephenson, may be mentioned the application of the link connecting the two eccentric rods, so that the back and forward eccentrics are always in gear with the valve, which renders the reversing of the engine a sure and positive movement. The great efficiency of the locomotives of the present day is owing to their greater size and strength, and to working them with a far greater pressure of steam, for instead of 50 pounds to the inch, it is often 150, 120 being a common working pressure.

Production and Distribution of Bread-stuffs.

Important as is the foreign trade in breadstuffs to the shipper and to the producer the amount exported bears a smaller proportion than many appear to remember to the aggregate production of the country or to the amount distributed through the great internal lines of communication to all parts of the land. The production of corn and wheat in the United States in the year 1868 is estimated at 980,000,000 bushels, or about 28 bushels per head to the population. Rye, oats, barley and buckwheat carry the aggregate crop to about 1,400,000,000 of bushels. The total export last year of wheat corn and flour (reducing barrels of flour to bushels) was only about 18,000,000 of bushels. From the port of New York the shipments to all places was as follows: Flour, bbls. 988,993; wheat, bushels, 5,694,737; corn, bushels, 5,900,579. Reducing flour to bushels the aggregate was 16,540,281 bushels. Of this amount by far the larger portion was sent to Great Britain. The rest went to the British North American colonies, to West Indies and to South America. The figures are as follows:

	Great Brit.	Rest of B. N. A.	West Indies	South America
Flour.....bbls.	235,110	51,993	208,683	3,684,165,401
Wheat.....bush.	5,524,365	132,213	67,566	98,104
Corn.....bush.	5,600,915	55,291	133,366	115,429

During the year 1868 the receipts of the leading articles of breadstuffs at the five lake ports of Chicago, Milwaukee, Toledo, Detroit and Cleveland were as follows: Flour, 4,266,885 bbls.; wheat, 31,795,521 bushels; corn, 31,368,100 bushels. Reducing flour to bushels, we have a total of 84,500,000. This quantity of breadstuffs was shipped from the ports named and was scattered along the route to the seaboard, less than one-fifth of it, or 16,000,000 bushels, as we have seen, going abroad. The rest was for home consumption.

In this connection, and for the purpose of appreciating the relative importance of the different avenues for freight, it is well to look at some of the details of production and see where breadstuffs are in excess and where they are deficient. The total population of the six New England States and of New York and Pennsylvania is 8,968,453. The quantity and value of the corn and wheat produced in them is as follows:

	Value.	Corn.	Wheat.	Total.
Main.....	\$2,746,539	1,624,239	193,110	1,817,389
N. Hamp....	2,598,740	1,321,281	305,653	1,626,934
Vermont....	3,743,503	1,490,975	614,692	2,105,667
Mass.....	3,295,096	2,595,096	41,000	2,636,097
R. Island....	628,804	400,293	36,558	536,951
Conn.....	2,830,400	2,059,735	52,401	2,112,236
New York... 59,981,079	22,800,893	12,526,406	35,336,299	
Pennsylvania 60,694,500	35,831,871	10,519,660	46,351,537	

Total... \$136,221,261 68,133,489 23,229,620 92,433,109

Thus, while Pennsylvania produces corn and wheat to the value of \$19 for each of its inhabitants, and New York to the value of \$15, Massachusetts produces only \$2½ and Rhode Island \$3½. Vermont produces \$12, Main \$4½, New Hampshire \$5, and Connecticut \$6; and, altogether, these States only produce an aggregate of about 10 bushels per head to the population. Turn now to some of the great producing States—Iowa, Illinois, Ohio and Michigan. These States have a population together of 6,186,806. The value of their corn and wheat is as follows:

	Value.	Corn.	Wheat.	Total.
Iowa.....	\$71,564,458	45,471,133	8,244,565	56,755,698
Illinois....	122,134,313	155,844,350	28,551,401	184,391,771
Ohio.....	76,600,064	93,766,822	10,308,854	109,975,670
Michigan...	50,203,948	16,118,620	14,740,639	30,859,319

Total... \$324,104,803 320,200,985 61,785,479 381,986,464

Iowa raises of corn and wheat the value of \$72 to each inhabitant; Illinois \$60, Ohio \$35, and Michigan \$50; or altogether, they produce 62 bushels to each inhabitant. If we add the aggregate production of potatoes, rye, oats, barley and fruits, some idea may be formed of the vast food resources of these great States and the immense surplus they have with which to make up the deficiency of the Eastern States. It is thus out of their abundance that they pour forth such lavish supplies to feed the population of less productive portions of the Union and of foreign countries. The surplus they send to the Lake ports is 80,000,000 of bushels. Four-fifths of this, after the export is taken out, remain to supply the wants of New England and the East, and to make up the deficient average of grain production which we have shown above, and which varies from \$2½ a head in Massachusetts, whose energies are given over to manufacturing, to \$72 a head in Iowa, which State is the heritage of an agricultural people, and has the capacity to raise food enough for the whole country. Only one-fourth of her area is now under cultivation.

The figures we have given exhibit the vast preponderant value of the internal commerce of this country compared with the foreign traffic. They suggest, too, the great value of the railroad system for collecting these products at the centers of business and then distributing them wherever they may be needed all over the land. The grain comes from Chicago to New York by water for 32 cents. The railroad, in the heat of competition, brings it for 30 cents. From Oswego to New York, hardly a quarter of the distance from Chicago, the railroad charge is 58 cents for a barrel of flour, and the water charge is 32 cents. From St. Louis to New Orleans the freight on flour is 40 cents, from New Orleans to New York 75 cents—an aggregate of \$1 15, while from St. Louis to New York, direct by rail, the freight is \$1 30.

The grain and flour start from the Lake ports and are dropped everywhere by the way. The large cities demand millions of bushels; the manufacturing towns hold out their hands for a supply; the small villages all take their quota, and the farmer's wagon comes to the railroad station and bears away to his farm the barrel of flour which represents the food the unkind climate refuses to produce. In this work of distribution, as we remarked in a former article, the railroads find a large portion of their business. The water routes are few and fixed. New land routes are opening daily, and are penetrating to every part of the country. The flour which is transported over half the continent for a dollar, is charged on the local routes 30 or 40 cents, or even more

for a dozen miles; and one may ship a barrel of flour from Chicago to New York for less than the cost of getting it to a point not without the reach of sound of the City Hall bell.

The period before railroads and canals was the period before manufactures. It was the era of home production and home consumption. The New England farmer was obliged to raise his food; he could not bring it from distant regions. Soon followed the marvelous growth and extension of the lines of intercommunication. As soon as the fertile valley of the Genesee was reached, New England found that food could be bought cheaper than it could be raised, and that the muscle and brain of her people could be more profitably employed in other pursuits than agriculture. The Ohio was reached, and the States along the Lakes; and as these immense granaries began to empty their riches into the lap of the East, the latter found new fields for its energies. Production and distribution have gone hand in hand, and the channel to market never remains long overcrowded. As a new demand is made upon it, new facilities are offered, and the restless energy of commerce is ever on the alert to make easy the transfer and interchange of commodities.

But the more important lesson developed by the facts we have presented is the value to the producer of cheapened channels for freight to the East. Much has been written of late with regard to other routes for reaching the seaboard. The Mississippi and the St. Lawrence has been looked to with this purpose in view. While we decidedly favor all these efforts, knowing it to be for the best interests of the country that the agricultural products of the West should reach the seaboard with as little expense as possible, none can fail to see that to supply the consumption of the Eastern States is a far more important object, as that demand is many times the demand for export. The great question returns again therefore, how shall we cheapen freights from the West to the East? In a former article we showed that the chief expense was in handling, and we are glad to see that in the late Chicago convention this matter has been fully canvassed and an agreement entered into between the Boards of Trade of the different cities which it is hoped will remove this difficulty. If that can be accomplished, then it will be proper to look to our canal tolls and canal facilities to see if the former can not be lessened and the latter enlarged or increased. Let as little as possible be taken from the producer and consumer for transportation charges and the whole country will reap the benefit.—*Financial Chron.*

The receipts of the Western Union Railroad Company for the week ending June 7:

	1869.	1868.	Increase.	Decrease.
Freight.....	\$16,497 74	\$12,066 92	\$4,430 82	.....
Passengers ..	4,406 88	3,633 00	753 88	.....
Express & Tel.	330 00	330 00	.....	.....
Mail.....	375 00	375 00	.....	.....

Totals..... \$21,622 62 \$16,444 92 \$5,177 70

Receipts from January 1, to June 7:

1869	\$270,442 42
1868	\$262,155 00

Increase..... \$8,287 42

The Springfield Republican says that the experiment of propelling the street railway cars at Northampton by steam, is likely to prove successful. At the late trial, the car, while partly loaded, was run with ease up the Mansion House, a grade of three hundred feet to the mile.

RAILS THAT WILL NOT BREAK.—A correspondent writes us at length in demonstration of the great importance of a rail that can not break or be broken, which we omit, as superfluous—two thirds of the accidents that occur on our railroads being caused by broken rails. He proceeds to say that:

"The invention by J. L. Booth, of Rochester, N. Y., of a process for capping iron rails with a solid cap of steel about $\frac{1}{2}$ or $\frac{3}{4}$ ths of an inch in thickness, in the opinion of the most experienced railroad men who have examined it, meets the requirements of safety and durability. The rail consists of an iron base with a steel cap, united to the base not by bolts, screws, rivets or welding, but simply by clamping. The iron bar is rolled of the required form and weight, after which it is passed through the compressing machine, which clenches powerfully upon it the heavy steel cap. The subsequent action of weight upon it, as the passage over it of heavy trains, is to grip the iron more and more firmly, until the base and the cap become as firmly united as if they were a single piece of metal. Over the experimental rails laid down two years ago near the depot in Buffalo have passed 40,000 engines and 500,000 cars. The iron rails adjoining opposite them have, in the interval, been six times renewed. No change is as yet observable in the steel-capped rails, and to all appearance they bid fair to wear out twenty successive sets of the ordinary sort.

"Two of the rails were also laid on the New York Central Railroad, at Rochester, N. Y., June 7, 1867. On one, the cap was loose and even rattling; on the other, it was firm. They were laid continuously, and with the old style of chairs. They were placed where seventy engines and trains daily passed over them on the main line, and where the track was used constantly for switching and making up of trains. The rate of speed over them varies. The through freight trains are frequently joined at this point, three or four in one, to ascend an up grade. They pass over these rails often at the rate of twenty-five or thirty miles an hour. The loose cap rail became tight in a very short time, and both are now in perfect order. Four sets of iron rails have been completely worn out, and new sets replaced on the opposite side of the track, during the period of time these duplex rails have been down."

OPENING OF THE LOUISVILLE AND CINCINNATI RAILROAD—TIME TO LOUISVILLE, FOUR HOURS.—The Louisville and Cincinnati Railroad will be opened to travel on Monday next, the 21st inst. Trains will run through from Covington to Louisville in four hours, the distance being 104 miles. A train containing a number of officers and directors of the company, passed over it recently, making the trip from South Covington to Louisville in three hours and fifteen minutes. The road from Covington to La Grange is laid with the Fish joint rail, which will cause trains to run quite smoothly. The depot of the company in Covington will be at the corner of Washington and Twelfth streets for the present. Temporary sheds are now being erected there.

T. F. Randolph,
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This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets $2\frac{1}{2}$ inches in width, and under. For Tickets over $2\frac{1}{2}$ inches in width.

SIZE NO. OF FORMS.	PRICES.	SIZE NO. OF FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms and also with working plans, if desired.

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L. WILLIAMS, Ass't Sup't, C.H.&D.R.R., Cincinnati,
J. H. WELLS, Ass't Sup't, D.&M.R.R., Dayton, O.
D. McLAREN, Gen'l Sup't, A.&G.W.R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C.&I.J.R.R., Hamilton
O. W. SMITH, Gen. Ft. Agt. C. & I.C. R.R., Indiana at
Aug. 2, [f.]

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Leave Cincinnati.....	6.15am.....	7.10pm
" Dayton.....	8.35 ".....	9.30 "
Arrive West Salem.....	1.50pm.....	4.53am
" Leavittsburg.....	4.55 ".....	7.35 "
" Meadville.....	7.35 ".....	11.10 "
" Susquehanna.....	7.48am.....	11.29pm
" Paterson.....	2.25pm.....	6.03am
" New York.....	3.15 ".....	7.00 "
" Boston.....	5.45am.....	4.45pm

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The NIGHT EXPRESS leaves Sunday
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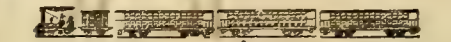
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CENTRAL RAILROAD
-OF-
NEW-JERSEY.



On and after Monday, May 21, 1866, three Express
Trains will leave New York daily (Sundays excepted) via
Central Railway of New Jersey, and Allentown, leaving
Pier 15, foot of Liberty street, North River, at 7:00 and
9:00 a. m. and 18:00 p. m. On Sundays, one Express Train
at 8:00 p. m.
Passengers by this route save 60 to 130 miles, and Two
Hours' Time over other Lines, with but one change
cars to Chicago or Cincinnati, and but two to St. Louis.
Passengers from the East by Sound Boats or by Rail in the
morning, will have time for Breakfast before leaving the
City. Fares always as low as by other Lines.
State-room Sleeping Cars on Night Trains.
TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. B.)
7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives
at Harrisburg 2 p. m., Pittsburg 12 night
9:00 a. m.—MORNING EXPRESS, for the West. This
train leaves New York Two Hours later than other Lines,
and arrives at principal places West at the same time.
12:00 m.—WAY TRAIN, connecting at Easton with
Lehigh Valley Railway to Mauch Chunk; at Reading with
Philadelphia & Reading Railway for Pottsville, arrives at
Harrisburg at 8:30 p. m. Without change of cars from
New York to Harrisburg.
8:00 p. m.—EVENING EXPRESS, for the West with
but one change to Cincinnati or Chicago, and but two to
St. Louis. This train leaves New York Two Hours later
than other Lines, and arrives at principal places West at
same time.

TRAINS TO NEW YORK.
(Leave Harrisburg.)
9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives
at New York at 6:00 a. m. next day.
3:00 a. m.—EXPRESS TRAIN, from the West, leaving
Pittsburg at 4:20 p. m.; passes Harrisburg at 3:00 a. m.;
Reading at 4:49 a. m.; Allentown at 6:00 a. m.; Easton at
7:09 a. m. Through cars from Pittsburg to New York.
9:05 a. m.—FAST LINE, from the West, leaving Pitts-
burg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Read-
ing at 10:52 a. m.; Allentown at 12:12 p. m.; Easton at
1:10 p. m. Through cars from Pittsburg to New York.
7:25 a. m.—WAY TRAIN, from Harrisburg, passing
Reading at 10:40 a. m.; Allentown 12:20 p. m.; Easton
at 1:35 p. m. Through cars from Harrisburg to New York.
Arrives in New York at 5:20 p. m.
2:10 p. m.—FAST MAIL, from the West, leaving Pitts-
burg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Read-
ing at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at
7:20 p. m. Through cars from Harrisburg to New York
Arrives in New York at 10:45 p. m.
H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO
ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.
Leave. Arrive
St. Louis & Chicago Ex..... 7.00 A. M. 9.10 A. M.
Springfield & St. Joseph Ex..... 12.00 P. M. 4.30 P. M.
St. Louis & Chicago Ex..... 4.55 P. M. 12.15 A. M.
Sleeping Cars by this train for St. Louis and Chicago.
Accommodation Trains.
Leave. Arrive.
Lawrenceburg & Brookville Ac-
commodation..... 5.15 P. M. 5.05 A. M.
Harrison Accommodation..... 10.10 A. M. 2.25 P. M.
Through Tickets can be obtained at the Burnet House-
Spencer House and Gibson House Offices; also at the
Depot. The Passenger Depot of the Indianapolis & Cin-
cinnati Railroad is within a few squares of all the pri-
cipal hotels in the city.
J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.

The Railroad Record.

E. D. MANSFIELD, { Editors
T. WRIGHTSON.

CINCINNATI:
THURSDAY, JUNE 24, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.	
One square, single insertion.....	\$ 1 00
" " per month.....	3 00
" " six months.....	12 00
" " per annum.....	20 00
" column, single insertion.....	5 00
" " per month.....	10 00
" " six months.....	40 00
" " per annum.....	80 00
" page, single insertion.....	75 00
" " per month.....	25 00
" " six months.....	110 00
" " per annum.....	200 00

Cards not exceeding four lines. \$5.00 per annum.
WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

ERIE, AND ATLANTIC & GREAT WESTERN.
Morning Express leaves 6:00 A. M.; arrives in New York 3:15 P. M., next day.
Fast Express leaves 9:15 P. M.; arrives in New York 7:00 A. M. second morning.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	3:15 P. M.
Fast Line.....	4:00 P. M.	10:00 P. M.
Lightning Express.....	10:00 P. M.	6:00 P. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City	
Fast Line.....	6:45 A. M. 9:50 P. M.
Through Night Express.....	10:35 P. M. 5:20 A. M.
Hillsboro Accommodation.....	2:40 P. M. 10:15 A. M.
Loveland Accommodation.....	5:30 P. M. 7:55 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.).....	6:00 A. M. 5:25 P. M.
do do.....	9:15 P. M. 6:40 A. M.
Toledo, Detroit & Canada.....	6:15 A. M. 10:25 P. M.
do do.....	7:00 P. M. 7:25 A. M.
Lima, Ft. Wayne & Chicago.....	6:15 A. M. 10:25 P. M.
do do.....	2:30 P. M. 6:40 P. M.
do do.....	7:00 P. M. 7:25 A. M.
Sandusky, Cleveland & Buffalo.....	6:15 A. M. 6:40 P. M.
do do.....	7:00 P. M. 10:30 A. M.
Connersville & Indianapolis.....	6:15 A. M. 10:25 P. M.
do do.....	2:30 P. M. 4:15 P. M.
Connersville & Newcastle.....	6:00 P. M. 10:30 A. M.
Hamilton, Eaton & Richmond.....	6:15 A. M. 10:25 P. M.
do do.....	5:00 P. M. 10:35 A. M.
Hamilton Accommodation.....	9:30 A. M. 8:05 A. M.
do do.....	6:00 P. M. 6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

Connersville, Rushville and Indianapolis Mail.....	6:15 A. M. 10:20 P. M.
St. Louis and Indianapolis Exp.....	2:30 P. M. 4:15 P. M.
Cambridge City and Newcastle.....	6:15 A. M. 10:30 A. M.
Cambridge City and Newcastle.....	6:00 P. M. 10:25 P. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express.....	7:00 A. M. 7:00 P. M.
Night Express.....	5:45 P. M. 10:30 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M. 5:00 P. M.
Express Mail.....	9:45 A. M. 6:00 A. M.
New York Express.....	10:00 P. M. 5:00 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M. 8:45 A. M.
Springfield Express.....	3:40 P. M. 3:48 P. M.
St. Louis Lightning Express.....	11:00 P. M. 1:15 A. M.
Lawrenceburg Accommodation.....	10:00 A. M. 2:35 P. M.
do do.....	4:45 P. M. 8:10 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M. 3:48 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M. 10:30 A. M.
Harrison Accommodation.....	6:05 P. M. 6:42 A. M.
Chicago and Cambridge City.....	6:30 P. M. 10:15 P. M.

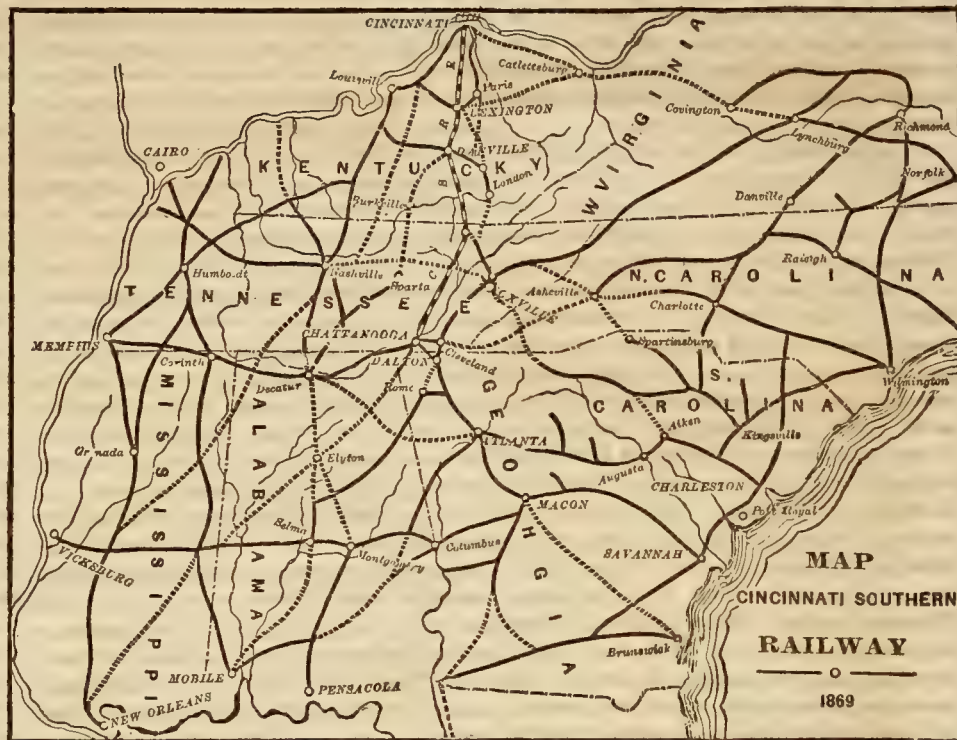
OHIO AND MISSISSIPPI.

For St. Louis, Cairo.....	7:00 A. M. 6:00 A. M.
Kvansville and Louisville.....	5:10 P. M. 9:00 P. M.
Only Sunday trains are 5:10 P. M., leaving, and 6 A. M. arriving.	10:15 P. M. 11:15 P. M.

KENTUCKY CENTRAL.

Express.....	6:00 A. M. 6:00 P. M.
Lexington Express.....	2:00 P. M. 10:50 A. M.
Falmouth Accommodation.....	4:45 P. M. 8:55 A. M.

CINCINNATI SOUTHERN RAILWAY.



Address to Citizens of Cincinnati by Executive Committee of the Board of Trade, Chamber of Commerce and City Council.

FELLOW CITIZENS:—The Legislature of the State of Ohio having granted power to cities of the first class, having a population exceeding one hundred and fifty thousand inhabitants, whenever it shall be declared by resolution of the City Council of such City, as necessary to its welfare that a line of railroad should be constructed between certain termini, one of which shall be said city; and upon the completion of certain other preliminary arrangements named in the act, to borrow money, not exceeding ten millions dollars, for the purpose of the construction of such line of railway. Your City Council having declared by a unanimous vote in favor of the construction of such a line of railway to connect the City of Cincinnati with the Southern system of railroads, and in accordance with the wise provisions of the act, where such grave responsibilities are to be assumed, it will become the duty of the citizens, on the 26th of June, to affirm the action of their representatives.

The object of the people of Cincinnati in making a Southern Railroad, has several times been set forth in addresses to the public. It is to enlarge the market for her manufactures, to extend the area of commerce, to aid in developing a district of country, which is naturally tributary to this city,—and by accomplishing this—to give greater employment to labor, and increased value to property. In one word—it is to secure greater growth and

prosperity to this city. That this may be seen more distinctly, we will state more at length some of the *benefits and advantages* expected to flow from this great enterprise:

1. There is an immense country south of the Ohio River, in which no city north or east of Cincinnati, can compete with it, on equal terms, in trade or the sale of manufactures, since none of them can reach it so quickly, or so cheaply. Yet to only a small part of that district is this city now accessible by railroad. It is, therefore, evident that if we can get a railroad into the heart of that region, we shall accomplish the double purpose of gaining a direct and immediate access to that market, and of rapidly increasing the market itself, by developing the growth of the country.

The extent of this country, to which Cincinnati will assuredly become the commercial metropolis, embraces about 200,000 square miles, and in the whole of it, there is no large town; to it, no eastern or northern city is, or can be, as accessible as Cincinnati. This is the great fact, and when we look at this, we see far beyond the Ohio, a magnificent prize, ready to fall into our hands. It is like a golden apple, which we can pluck when we choose. When this Southern Railroad shall be extended from Cincinnati to the proposed Southern terminus—Chattanooga—it will there connect with roads ramifying to all parts of the Southern States, and will draw to itself branches on

every side. The country will soon be interpenetrated with railways. Its genial climate, rich agricultural resources and wonderful deposits of mineral wealth will soon make it become rich and populous, demanding all the energies of Cincinnati, even if fourfold its present magnitude, to supply its wants.

2. After looking at the vastness of this new field of enterprise, let us see the extent of railway systems, which this trunk line would unite. In Ohio and Indiana on the North and leading directly to Cincinnati, are 6,000 miles of railroad. South of East Tennessee and converging there, are all of 4,000 miles more. But between these two systems is what has hitherto been almost an "impassable barrier—the thinly settled portion of Kentucky and Tennessee.—A section of country that needs but to be made accessible by railroad to assume a front rank in material development. Take up your map and try to find a route by which you can go from the Northern railroad center in Cincinnati to the Southern in East Tennessee. Where will you go? It can be done: but you will first go almost due West, then South, then East, and then North! In fine, you will have gone three-fourths round that district, and almost three times the distance you need have gone to get there on a tolerably direct railroad. If, therefore, there were no object but that of connecting the great Southern system of railroads with Cincinnati, it would be an object worthy of our greatest efforts. Make two or three hundred miles of good road, and you gain the traffic of 4,000 miles, for it would seem as if the entire system of railroads at the South had been constructed on purpose to pour its traffic through the proposed trunk line, like water gathered in a funnel. You turn the faces of the Southern people towards the metropolis of the West, and make the cotton fields one of the markets of Cincinnati.

3. Look now to the special interests of manufactures in this city. It is safe to say, that 60,000 people in Cincinnati are engaged in the various operations of manufactures (exclusive of local mechanics), some parts of whose products are exported, and to whom it is a great object to extend their markets, that they may increase their products and their profits. In the multiplicity of its manufactures, Cincinnati has been remarkable. Its fabrics have been sold over a region of country one thousand miles in diameter; and the varieties of those fabrics have been constantly increasing. In ten years, from 1840 to 1850, more than fifty (50) new branches of arts and manufactures were introduced into this city; but it is now meeting competition in the great and flourishing towns which arise on the lakes and on the Mississippi. This is the case in all the great district of the North-west. But in the region which we have described, this competition can not be successful against us, if we can only get a direct route to it. There is a greater extent of

country accessible to Cincinnati manufactures, and which can be supplied from no other quarter as well, than is within the exclusive reach of any other city in the United States. It is well known the Southern towns neither are, nor are likely to become, manufacturing places. Their supply of manufactured goods has heretofore been obtained almost entirely from the East, shipped coast-wise. This, and the return shipment of produce has made the great bulk of the immense coasting trade between the Eastern and Southern States. But it is very evident, that an article of manufacture, in iron, wood, or leather, for example, can not be shipped a greater distance coast-wise, then transhipped and carried on land, in competition with the same articles from the interior, without transshipment. Except for the mere coast itself this competition can not be maintained by Eastern manufacturers.

It is an inevitable conclusion from the facts we have given, that the manufactures of Cincinnati must receive a great impulse, and be extended over a much wider area by the Southern road, which in fact will create a market for them almost to the Atlantic Coast.

4. Now, let the merchants of Cincinnati look to their account in this matter. They are in the same condition, as to this, with the manufacturers. It is not to be denied that in recent years our merchants have met with unexpected competition. This arises from the fact that they have been trading almost exclusively with districts of country in which competition must every day increase—Cleveland, Toledo, Chicago on the Lakes, St. Louis on the Mississippi, and Louisville on the Ohio, are all growing up to be great cities. They extend the area of their trade to meet ours midway; in those markets North and West it is not possible to hold any exclusive advantages. But this is not true of that great country which extends South of us—where Cincinnati will have exclusive advantages—advantages which can not be taken away from her. Some one may say that the merchant will meet competition in the South from the Eastern Atlantic Cities. Not so at all, till you approach very near the Atlantic coast.

Further the decreased cost of transportation of the products of the South,—rice, sugar, cotton, coffee, fruits, &c., will enable the merchants of Cincinnati to compete advantageously with Northern and Eastern cities for this class of trade North of the Ohio river. The construction of the Southern road will thus assist our merchants to again recover some of the territory lost by the development of rival cities North and West of us.

It is well known, that Cincinnati cured meats are now sold in the interior of North and South Carolina. Can any one ever imagine that these products can be sent to Baltimore, reshipped down the Chesapeake, sent to the Southern coast, transhipped and sent into the interior, as cheaply as they can be sent on one line directly from this city?

It is impossible. We may consider then, without any exaggeration, that as the result of making a Southern direct road from Cincinnati, the whole 4,000 miles of Southern Railroads and their branches will be as tributary to the trade of Cincinnati, as the roads on the North which now concentrate here. The Southern Road will be, for the merchants of Cincinnati, not so much a mere railroad, as a grand bridge, of which Cincinnati holds the gate; a bridge which bridges over the gulf which separates the Northern and Southern systems of railroads, and a bridge over which the traffic of 10,000 miles of railroad must pass, and pay its tribute to this great metropolis.

5. To the builders, mechanics and laborers of Cincinnati, this work presents obvious benefits; scarcely ever equaled. Cities live by trade and manufactures. If these languish, buildings cease to be erected; mechanical occupations grow dull, and laborers are out of employment. At the present time Cincinnati averages but a thousand new structures per annum. But at the rate of growth which she formerly had, she would build two thousand annually; and with the stimulus which a Southern trade trebled in value would give, might be expected to increase its buildings even more rapidly than that. Trade and manufactures increase population and wealth. Population demands houses, and wealth furnishes the means to build them. Stores, warehouses, factories, churches and public buildings, all arise with enlarged commerce and productive industry. What is profitable for trade and manufactures is profitable for the mechanic and the laborer. Each depends upon the other, and all grow up with increased markets, new outlets, and new growth. All new works and new enterprises furnish new employment for the laborer, and enables him to share in the profits and general prosperity of the community.


The necessary distribution of money incident to the construction of the road will be felt at once by all classes—the mechanic, the laborer, the builder and the merchant. The preparation of material—the work of construction, and the increase of traffic will furnish an active field for the exercises of energy, diversity of talent and skill, and secure prosperity, growth and development to every department of industry.

6. To the holders of real estate, all the arguments which apply to other members of the community, apply with greater force. Diminish the general business of any city, and you lessen the demand for houses and stores, and you lessen the demand for lots to build upon. There is no species of property which so certainly diminishes in value with the reduction of business, as does real estate. There are cities in Europe where no man expects to sell a house or lot for what he gave for it; because business is no longer increasing, and there is no new demand for property.

Till within a few years, property rose in Cincinnati with great rapidity, because the population increased 100 per cent. in ten years. Those were the days of great activity in all public improvements. Canals, roads, railroads, were making on every side, and business flowing in from every quarter. But the activity of growth declined with the decline of public improvements. The avenues of a city must continually extend, or the area of its markets can not be extended, and without increased markets, trade must languish, manufactures grow dull, and the laborer seek in vain for employment.

With prudence, honesty and the exercise of ordinary business skill in construction and management, the Cincinnati Southern Railway, instead of being a burthen on the city treasury, will be a source of profit. The diversity of climate and the natural productions of the two sections of our country that will be united by this common band of commercial interest will furnish in their respective wants a full and profitable traffic in goods, wares and products both ways.

Fellow Citizens! We do not address you on a common topic, or with a view to common results. No city on this continent has ever had such a magnificent prize within its grasp. By the expenditure of less than five (5) per cent. on your capital, you can extend your markets over 200,000 square miles of territory, which without this effort you can not get; because others will go there if you do not. You may bring four millions of people within the area of your trade, who are now diverted from you to the cities of the Atlantic. You can increase the demand for your manufactures to fourfold the present extent! You can thus give employment to thousands of mechanics and laborers, who are now passing on to other cities of the West. You may increase the profits of all business, increase the number of the people, expand the limits of the city, crown its hills with new structures, and adorn them with new works of art. In fine, you may renew in Cincinnati the powerful impulse of progress, and maintain its position as the metropolis of the mighty West.

 The Kansas Pacific Railway Company have invited the Railroad Committees of the Senate and House of Congress to make an excursion over their road. Several of the committee have accepted the invitation, and others will probably do so. The excursionists are expected to arrive in St. Louis Monday next. The programme will include a visit to Iron Mountain, Pilot Knob, and the granite region of South-east Missouri, and a trip to Sheridan, the present terminus of the Kansas Pacific Railway, stopping probably at Kansas City to witness the bridge celebration at that place on the 3d of July. From Sheridan the party will go to Denver, thence to Cheyenne, and return *via* Omaha.

CINCINNATI SOUTHERN RAILWAY.

Reasons why it should be made.

There are 4,000 miles of railway at the South, at present inaccessible to the trade of Cincinnati.

The people of the entire South desire to buy your stoves, plows, steam engines, hardware, and other manufactures; because we can sell them cheaper and better goods than they can get elsewhere.

If the Southern Railroad was made, Cincinnati would be their nearest and best market for manufactured goods.

By the construction of the Southern Railroad we would add 4,000,000 people to the list of customers for our manufactured goods.

The merchants of Knoxville buy stoves in Troy, N. Y., and carry them one thousand miles, because the freight is less than on the two hundred and seventy from Cincinnati. The people of the Southern States need one million of stoves to day.

The same is true of all other manufactured goods.

The expenditure of the money for the construction of the road will fill our work shops and rolling mills with work, and will give employment to thousands of laborers now idle.

The road, when finished, will be worth all its cost, and will in a few years pay for itself.

The city will not be taxed for its construction. The road will pay its way as fast as made, and every mile of new road will add to the trade of Cincinnati.

The Southern Railroad will make Cincinnati the focal point between the railroads north of the Ohio and the southern system of railroads.

It will be the *Short Line* between the food regions of the Ohio Valley and the cotton regions of the South.

It will be the best line between the South Atlantic and Gulf ports and the North-west, enabling Cincinnati to ship pork and flour direct to all the Southern States, the West Indies and South America.

It will open a new, cheap and inexhaustible source of supply of raw materials for our work shops and factories, in addition to a new and boundless market for our manufactured wares.

It will infuse new vigor into all classes of industries, in ten years add one hundred per cent. to our population, and increase the general wealth of our city fourfold.

Above all others the laboring man is interested in the construction of the Southern Railroad, for if it is not constructed and a market made for his products, he will have to either take less for his labor or seek other pursuits or homes.

In voting for the Southern Railroad, every laboring man or mechanic votes himself work and good wages, and thus secures comfort and plenty to his family.

CINCINNATI SOUTHERN RAILWAY.

FELLOW CITIZENS: On the 4th day of June the popular sentiment seemed to find expression in the decision of the City Council, endorsed by the Chamber of Commerce and the Board of Trade, that your Southern Railway should terminate at Chattanooga. On the 26th of June you will be called on to ratify the decision, and to say the road shall be built by the use of the credit of your city to the extent of ten million dollars.

Chattanooga, located nearly south of your city; Nashville, to the west; and Knoxville to the east, have been suggested as suitable points for your Southern terminus.

Chattanooga was selected, because railways extend thence to all portions of the South, and because the central position of a road leading to that point renders it easy to construct short branches to connect with the concentration of roads at Nashville and Knoxville; by means of which, connecting lines will be obtained to Wilmington, North Carolina; Charleston, South Carolina; Savannah, Georgia; Pensacola, Fla.; and Mobile, Ala.; New Orleans, Louisiana; Vicksburg, the gateway to Texas, and Memphis to Arkansas. Thus the cotton of the Carolinas, Georgia, Tennessee, Alabama, Mississippi and Louisiana; the rice of South Carolina and Georgia; the sugar of Alabama, Mississippi and Louisiana; the hides and beef of Texas; as well as the products of the West India Islands, will become tributary to your wealth.

Your road being constructed on the universal southern gauge of five feet, will enable you without the expense of transshipment, (which is an inseparable objection with heavy machinery,) to equip all the Southern roads with locomotives and cars; to furnish machinery to cultivate the ground; to gin the cotton; to crush the sugar cane and to saw the timber. You will also furnish the houses, replenish the stores, and send provisions for the sustenance of the millions who now inhabit the Southern States, and those who will quickly emigrate there to cultivate the vine, and secure other employment that will be liberally provided.

In order to realize the increase of your prosperity consequent on this new condition of things, climb in imagination one of the hills that surround your city, over which in three or four years your rapidly increasing population will have forced Street Railways, and which will then be covered with habitations, the smoky valley having been abandoned to numerous factories and warehouses.

What a busy view will meet your gaze. Not only from the North, East and West, will trains rush towards your city, freighted with the products of that region in which your principle market has been found of late years, notwithstanding the severe competition you have encountered there from other cities;

but towards the sunny south you will see trains bearing away the products of your factories and the merchandise of your stores, returning laden with wealth for all.

Then will be your jubilee. No merchant will loiter about his store and look at empty boxes piled up to counterfeit business. No manufacturer will pass through deserted work shops and bewail the loss of machinery rusting out in quiet repose. No skilled mechanic will return home sad and downcast with the oft repeated tale of "no work." No industrious laborer will seek with eager expectation for "something to do."

Instead of that, the busy drays will rattle over your streets. The puff of the engine and the clatter of machinery will enliven your manufacturers, who will eagerly look for men who have learned to turn out the finished work, and for the laborer, who, with strong arms, nerved with steady toil and nourished with healthy food, provides abundantly for joyous children. All care and anxiety gone.

Do you like the prospect? or, will you let other cities gain the prize? Fear not increased taxation. The money expended in building the road will return to you in payment for labor performed and contracts completed. Your city will never have to pay the bonds issued for the construction of your road, and probably but little of the interest. Before the first payment of interest has to be made, a portion of the road will be in operation and earning money; when the entire road is completed the vast amount of travel on it will insure the payment of interest and the formation of a sinking fund to liquidate the original debt.

When that is done no incorporated company will be enriched by the profits of the road, but they will be applied to reduce the taxes of your city, and you will form the most prosperous manufacturing community in the world. So may it be.

THE WESTERN MIDLAND RAILROAD.—Cortland, N. Y., June 16.—A large and enthusiastic meeting of the cities of the Counties of Chenango, Cortland, Cayuga, and Tompkins was held at Cortland today, at which the Hon. Ezra Cornell of Ithaca presided. Resolutions were unanimously adopted to construct a railroad from Guilford, Chenango County, on the midland, through Cortland to the City of Auburn and the village of Ithaca. A company was organized for the purpose, under the name of the Western Midland Railroad Company, with a capital of \$2,000,000. Articles of association were adopted, and subscriptions received sufficient to secure the organization. The following Directors for the ensuing year were elected: Jas. S. Squires, Perrin H. McGraw, Horace P. Goodrich, Jas. C. Pomeroy, Horatio Ballard, and Benjamin F. Tillinghast of Cortland; Robert J. Barnard, and Hugh S. Crozier of Chenango; John M. Hand, jr., Fred. Dennis, and B. H. Leonard of Cayuga; Ezra Cornell and John McGraw of Tompkins. Proceedings will be taken at once to bond the towns of the route.

Northern Pacific Railroad.

The Certainty of its Early Completion—Its Great Advantages over the Central Pacific—Other Important Lines Seeking an Outlet via the Lake Superior Route—Their Importance to our City and State.

[From the Detroit Post.]

When it was announced in the *Post*, early in April last, that arrangements had been consummated by which the Northern Pacific Railroad was to be carried from its Lake Superior terminus to the valley of the Red River of the North (a movement which would insure its completion to the Pacific), the information was received with incredulity by a number of journals, both East and West. Showing, however, that our information was obtained from an entirely reliable source, we have patiently bided our time, and now the developments are such as to fully substantiate the statements then made. We may remark, however, that at no time has the shadow of a doubt existed with regard to the early completion of this great enterprise in the minds of intelligent men who have given the subject careful investigation. At the same time it is truly wonderful how long the country has slumbered in ignorance with regard to the true character of the region through which this great thoroughfare is to pass. We will waive the question as to what extent the blind fatuity of the Government may be chargeable for the fact that we are indebted for our knowledge of this wonderful country so much less to scientific exploration than to the incoherent accounts of hunters and trappers. It is a quarter of a century since the remarkable fact was given to the public that the buffalo of the far West migrated northward in winter, where a region of almost perpetual verdure extended for the distance of many hundred miles from the Pacific, yet very little was done in the way of scientific explorations. By slow degrees the fact has been elicited that the country from the head of Lake Superior to the waters of the Pacific is so admirably adapted to the construction and maintenance of a line of land carriage as to render the conviction irresistible that nature herself has marked out the route as the great highway of the world.

For the entire extent, save about 300 miles from the Eastern terminus, the maximum depth of snow does not exceed two feet, while throughout the greater portion of the distance, snow is unknown. The advantage in this respect over the Central Pacific is incalculable, but in several other respects it is not less remarkable. Instead of traversing along stretches of barren country, which can never furnish any business, every mile through which it passes is remarkably fertile. Seven or eight mountain passes, over 7,000 feet high, exist on the Central route, and one of about 10,000 feet, the passage of which will be attended with the most formidable difficulties for several months in the year. On the Northern route the highest pass has an altitude of only 5,000 feet, and there are none that can not be easily surmounted. The route from lake to ocean is stated by engineers to be seven hundred miles shorter than the Central line, so that the saving in land carriage would amount to sufficient in less than twenty years to pay the whole expense of building the road. Puget Sound, the proposed Western terminus of the road, is the most remarkable body of water in the world, having a coast line in the aggregate of 1,600 miles in extent.

At a recent meeting of the Directors of the

company in New York, the contract with Jay Cooke was ratified, and a resolution was adopted instructing the Executive Committee to proceed with the surveys. Messrs. Jay Cooke & Co., have sent out one party to the Pacific termini of the road, who will follow its proposed line eastward from Portland, Oregon, the party is to go to Puget's Sound, from whence they will visit all the points of interest in that section. They will then strike across the Columbia river, which they will ascend for a considerable distance, and thence march to Fort Benton, where they will take a steamer to Sioux City, from which point they will return to New York by rail. The Directors also propose to start from the eastern end of the line, another expedition, consisting of the President, Mr. Smith, the Chief Engineer, Mr. Johnson, together with a number of prominent gentlemen, including one or more representatives of Jay Cooke & Co. This party have made arrangements for a military escort to protect them from the Red River to the Great Bend of the Missouri. When their exploration is finished, engineers will undoubtedly commence to survey and locate the line extending to the junction with the Lake Superior & Mississippi Railroad. The confidence of Messrs. Jay Cooke & Co., in the triumphant success of this line as the great railway enterprise of the continent, is said to be unbounded, and as soon as the preliminary steps are made, the work of construction will commence. There can be no reasonable doubt that in four years this great thoroughfare, which is destined to convey across the American continent the rich commerce of the Indies, will be an accomplished fact.

By the completion of the Lake Superior & Mississippi and the Sioux City & St. Paul Railroads, a vast commerce will be brought to the Shores of Lake Superior before the completion of the Northern Pacific. The last named road has already been completed to Mankato, eighty-four miles from St. Paul, and the contract calls for its completion by July 1, 1871. This road connects with the Sioux City & Columbus Railroad, a road which will lap the Union Pacific at Columbus, a point 100 miles west of Omaha. This point of divergence will be brought, by this connection, upward of 100 miles nearer Duluth than to Chicago, and the route will naturally command the greater share of the heavy freight from the line of the Union Pacific. The line extending from Columbus to St. Paul and the railway system with which it is immediately connected penetrates a region of country which for fertility is not surpassed in the world. Its development is in its infancy, but it is destined to progress with a rapidity to which there is no parallel.

This mighty commerce will soon be brought to the confines of our State. The interest which we have in its development is too patent to require elaboration. By means of our vast inland seas, an Eastern outlet is provided during the season of navigation, but to enable our city and State to reap the full advantage of their natural position—viewed especially with reference to the Northern Pacific—a railroad connection with Lake Superior is obviously demanded. When will our citizens awake to its true importance?

WATER SUPPLY FOR JERUSALEM.—Miss Boddett Coutts has taken on herself the entire expense of introducing pure water into Jerusalem.

[What a pity she could not be induced to confer a like favor on Cincinnati.—Ed. RECORD.]

Fuel for the South Pacific Railroad.

[From the Railroad and Mining Register.]

The "Report of Surveys across the Continent in 1867-68, on the 35th and 32d parallels, for a route extending the Kansas Pacific Railroad to the Pacific Ocean at San Francisco and San Diego, by Gen. Wm. J. Palmer, December 1, 1868," printed at Philadelphia and circulated recently, gives a new view of the extent of the bituminous wealth of the nation, which must claim the admiration of all thinking minds. It is a pity that the details of this and previous costly explorations made by government during the last decade remain pigeon holed at Washington, with small chance of seeing the light for years, if ever, through a false economy of a few thousands of dollars, while new explorations are being undertaken at a prodigious expense, destined probably to the same fate. Last year Mr Clarence King received an appropriation of \$120,000, and this year another of \$200,000, to be expended in the exploration of the central region between the Rocky Mountains and the Sierra Nevada. Nothing of the results of the \$120,000 has yet been published, not even a sketch. While the laborious researches of the various previous expeditions to which Dr. Newberry, Dr. LeConte and Dr. Hayden were attached have remained locked up, as we have said, in the Bureaus at Washington, mere sketches of the personal adventures of the chief officers having been presented in pamphlet form to the public.

From one of these we collect the following meagre accounts of the coal fields of the Southwest, to give our readers some faint notion of what could be known of this all important subject if a better system prevailed at Washington.

Coal exists in great abundance on both the "Raton Mountains" and "Puntia Routes," and probably also on the "Cimarron." In the Raton Mountain, and on both sides of it, in company with Dr Leconte, geologist. I saw as many as twenty exposures of coal in at least a dozen different veins, the best of which, in reference to the purposes of the road, was found in the canons of the Vermejo and its branches, about 20 miles from the line, where were two beds of ten feet thickness, each admirably situated for cheap mining, and of great purity in respect of slate and sulphur. This coal, which is bituminous, is hauled in wagons 70 miles, for the use of the Government, for blacksmithing purposes at Fort Union. Apparently, it is as good as the Westmoreland Coal of Pennsylvania. The distance from Sheridan to this coal is 260 miles. It is more particularly described in Dr. Leconte's report.

In the valley of the Galisteo, 4 miles from the "Old Placer Mines," two veins of anthracite coal, each from 3 to 4 feet thick, occur. This deposit lies within a short distance of our line, should it follow the Galisteo Valley. It seems highly probable that the anthracite near the "Old Placer Mines" will be found to be bituminous coal, at some distance from the porphyritic dyke which adjoins it at the mine, and that this and other beds will be found elsewhere in the Galisteo Valley. A valuable seam, has, indeed, been recently discovered near San Felipe, within 12 miles of the Rio Grande.

In the Tijeras Canon, 1½ mile northeast of the town of Tijeras, a vein of bituminous coal, 4½ feet thick, was seen and traced by Mr. Holbrook, Division Engineer, for a distance of 2,000 feet, by sinking small shafts along the vein.

Many small or otherwise inferior veins of coal were also found by our parties at different points along the line sufficient to indicate the wide-spread diffusion of this mineral, and to tempt further exploration. But having traced the existence of enough coal of good quality to operate the road and furnish it a large traffic, for hundreds of years, we left the subject for future prospectors. We have reports of coal on the Purgatoire, 30 miles south of the Arkansas, which is represented as being of workable size and good quality; and there is said to be a vein on the first tributary south of Fort Lyon. It is, of course, of the greatest importance to obtain good coal as near as possible to the end of track in Kansas; and these points, as well as the northern base of the Raton Mountains, should be examined for the company, to ascertain whether coal can not be had before crossing that spur. Coal is also reported in the Pecos Valley 5 miles above Anton Chico, and on the eastern slopes of Chupaynas Ridge, near Las Vegas.

On the Cimarron Route Dr Steck states that with General Carleton, he saw on Rabbit Ear Creek, 4 miles below the wagon crossing, a large vein of coal, apparently 14 feet thick. Should this deposit, of which I have heard from other sources, prove satisfactory, it will go far to offset a serious drawback in the almost entire absence of timber along this route. On the Huerfano Route, Dr. Parry reports that he met with no workable coal. On the route by "Puntia Pass," coal quite equal to, if not superior to that of the Vermejo, was seen by Col. Greenwood at Canon City. It occurs in two veins, from 4 to 10 feet thick, and the deposit extends at least 20 miles down the Arkansas Valley, below Canon City. This brings it to within 90 miles of Fort Lyon, or 204 miles from Sheridan, being the nearest certain supply of good coal to the present end of track that we know of. The quality is admirable, and the quantity apparently inexhaustible. Major Calhoun, of our party, estimated the size of the deposit between Hard Scrabble and Canon City to be 100 square miles. In the Wet Mountain Park the deposits are represented as equally good. Major Calhoun also discovered a thin vein in the Puntia Pass, near the head of Puntia creek, of no value except as indicating that such veins exist in that vicinity. It may perhaps lead to the discovery of larger beds. Accessible to this route, in the mountains west of the Rio Grande, coal is also reported to have been found.

Accessible to the Rio Grande valley, from the mouth of the Galisteo southward to El Paso, a large amount of coal is found. The following are the localities reported, of which those on the Puerco, in Tijeras Canon, and near Don Pedro, are the only ones that have been actually examined by any of our parties. 1. Near San Felipe, thickness and quality reported good. 2. Six miles east of Algodones, reported very good. 3. In Tijeras Canon, already referred to, 4½ feet thick, quality at outcrop not very good; expected to improve when opened. 4. West of Las Lunas on the Puerco, of fair quality—has been used in Government shops. 5. Near La Joya, on the east side of river. 6. In the Sierra Madalena, west of Socorro. 7. North of Fort Craig, 8 miles east of Don Pedro, vein 5½ feet thick. Dr. Leconte, geologist of the expedition, examined this bed, and reports it of good quality, and that it may be worked for many years. 8. In the Caballo Mountains, on the east side below Craig. 9. At Robelodo. 10. Abundantly near Donna Anna and Mesilla, on both sides of Rio

Grande, 3 feet thick of good bituminous coal.

In reference to the branch from Albuquerque to El Paso and Chihuahua these deposits along the Rio Grande assume great importance. They will furnish a large traffic to the road, besides enabling it to be operated cheaply. They are also invaluable to the mines of silver, gold, copper, lead and iron, which line both sides of the Rio Grande almost continuously, enabling these ores to be cheaply produced and smelted; and they will furnish fuel to the large agricultural population which will before long fill up this unwooded valley.

Deposits of coal are known to extend as far west of the Rio Grande as the Moqui villages more than 300 miles from Albuquerque, where Newberry saw a bed 12 feet thick. This is some 50 miles north of our surveyed route on the Little Colorado. The most westerly deposit reported by our geologist, Dr. Parry, was on the Zuni Pass line, 15 miles east of the Indian town of Zuni, where he saw a bed 4 feet thick, near Pescado Springs, at a good elevation in the bluffs for mining, and to all appearances sufficiently extensive to be valuable: in quality rather slaty at outcrop, but likely to improve as opened. There were also other beds, the outcrop showing along the bluff for several miles. This is 140 miles west of the Rio Grande.

In the Sarcino Canon, about 30 miles west of the Rio Grande, and within 3 miles of our surveyed line on the El Rito, are 3 distinct seams of coal, averaging 3 to 4 feet in thickness; one of these is 4 feet thick, and apparently without any included slate veins. It dips about 40° and the quality is not very good at the outcrop, but it may improve at greater depth. The extent of the deposit remains to be proven, but as we hear of coal existing north, south and west of this locality at intervals over long distances, there is a reasonable prospect of finding an abundance of fair coal. The localities referred to are: 1. On the Puerco near Pueblazion, 15 miles north of Hubbel's Ranch, (thought to be Cannel). 2. In Canada of Ojo Hedionda, 8 miles northwest of Hubbel's bridge. 3. At Ciboleta. 4. Near Le Xara Springs, 50 miles south of the El Rito.

Dr. Parry found near Accoma, 60 miles from the Rio Grande, and 8 miles south of our line, cancell coal in veins as thick as 20 inches, which the Indians use for jet ornaments, and very good coal at San Jose, 7 miles west of Cubero, in three veins, of which the total thickness was three feet—the thickest seam being 20 inches.

On the San Felipe line, near Gavilan Pass, 20 miles from the town of El Rito, our engineers found a good vein of coal of workable thickness. And on the same line, near San Pedro, on the divide between the Puerco and the Jemez, Mr. Holbrook reports having seen a vein of fine cancell coal, two feet thick, and nearly everywhere indications of an abundance of cancell coal; this was 60 miles west of the Rio Grande by this line. We were informed of numerous veins of coal, two to four feet thick, and covering an area of 40 miles, existing about 18 miles north from our line at Agua Azul, but did not see them. Dr. Wizenus saw coal near the village of Jemez. Good coal is found immediately west of the Sierra Madre, near Fort Defiance, and is reported to extend to within a few miles of our surveyed line at Campbell's Pass. The proposed line from San Felipe, north of San Mateo Mountain, will probably lie nearer to extensive deposits of good coal than those farther south. Several localities of coal, in thick

beds, are reported in that country, between Jemez and the Sierra Madre; and Simpson saw coal in the Canon de Chaco, near the 36th parallel, almost due north of San Mateo.

Nearly 450 miles west of Zuni, coal is found on the Great Colorado river, about 40 miles below Callville, and 150 miles north of Fort Mojave. We did not see it, but heard, on good authority, of its occurring in a vein of workable size, and of its having been used by the miners at El Dorado Canon. Its position along the immediate bank of the river, enabling it to be boated down cheaply to all points below, will make this deposit exceedingly valuable, should it prove of good quality.

From the Colorado river westward to San Francisco, we met no coal and heard of none. The only deposit actually known in this distance is the rather inferior one at Monte Diablo—not far from the last named city.

On the San Diego line I heard of coal on the Rio Santa Ana, 20 miles above Anaheim, reported to be a good workable vein, but did not see it. At San Diego, Captain Colton, of our party, reports the probable existence of good coal. "On the shore, just west of the light-house, indications were observed about 12 years ago by the Mormons, and some work was done, but before this was completed, the invasion of Utah by the United States troops took place, and Brigham Young ordered all the faithful to Salt Lake City—so the work was abandoned and has not since been resumed. A blacksmith, who had used the coal, pronounced it of good quality, burning freely with no sulphur, (something rare on the Pacific coast;) that it welded well, and left a very little (white) ash. The stratum was $4\frac{1}{2}$ feet thick at the bottom of a shaft, 86 feet deep."

Several veins of coal are also reported on the coast at the mouth of the Soledad creek, 12 miles north from San Diego.

Enough has been shown to prove that a large amount of good coal is found on this route between the Arkansas river and the Pacific, sufficient not only to answer all the purposes of the road and the resident mining, manufacturing and farming population, but to furnish a large traffic for transportation to less favored districts. The coal trade will, in all likelihood, be one of the largest sources of business the road will have. It remains to be ascertained whether the varieties found are as well adapted to the reduction of iron, as they undoubtedly are to locomotive use. If so, the supplies at Canon City, on the Vermejo, near the Placer Mountains, and along the Rio Grande, will prove of the greatest value, in consequence of their occurring in connection with rich beds of iron ore, and close to limestone. And, before long, we may expect this country to be filled with furnaces and rolling mills like the rugged mountains of Wales.

Last February Dr. LeConte's supplementary report was published, to which Gen. Palmer refers in the first of the paragraphs given above. We may recur to this valuable geological contribution to our knowledge of Rocky Mountain region, hereafter. At present we will only give the Doctor's personal measurements of three exposures of the large coal bed of the Raton Pass, to show its great importance and its variability. The first one he made "about six miles from Trinidad on the east side of the road, on the bank of a small stream, in a bluff":—Coal 18 inches, shale 7 in., coal 7 in., shale 6 in., coal 2 feet, slates 4 feet, mixed slates and sandstones 4 feet, coal 1 foot. The second exposure was fifty yards from the first:—Coal (good) 2 feet,

slate 10 in., coal (good) 1 foot, slate 18 inches, coal (good) 18 inches, sandstone (shale) 9 feet, coal (good) 15 inches. The third exposure was a little further on:—Coal 3 feet, slaty clay 2 inches, coal 7 inches, clay 1 inch, coal 9 inches. The fourth exposure was reached by riding 5 miles up the valley of the Vermejo canon, where he saw a coal bed mixed with shales 10 feet thick; 29 feet; under it another coal and shale bed 15 feet thick; 57 feet under it coal (good) 5 feet, slate 10 in., coal (good) 5 ft.

We have here then a coal bed 11 feet in thickness, *ten of which are of good coal*, occurring in regular coal measures, containing two other coal beds of equal thickness but inferior quality, and ranging along the foot of the mountains, from canon to canon, for an unknown distance; and all the recent explorations go to show that these deposits of fuel extend northwards for hundreds of miles, to join the coal beds of Denver city, and the coal beds described by Dr. Hayden, still further north—and southward into the Santa Fe country.

The Late Henry J. Raymond.

We have already received by telegraph the particulars of the funeral of the late Henry J. Raymond. Below we give the address of Henry Ward Beecher, delivered on that occasion:

ADDRESS OF THE REV. HENRY WARD BEECHER.

It may not be improper that I should indulge in eulogy, nor even that I should attempt to recount the prominent acts in the history of him who is gone. But a few days ago he walked in manly vigor and unceasing activity, and to-day—not when he was born and was in his cradle was he so weak as now—this man of strength and power is in his coffin. So suddenly and so instantly was his fall, as of some mighty tree that had filled the air, wide and broad, with its strength and richness, and in an hour it has felt the woodman's ax, and the place that knew it knows it no more, and will not, forever. It is seldom that any one passes from life, holding no public position, except one built up by himself, around whose departure there has been such a concentration of regret, and for whom there has been so cordial an expression of good will and admiration, and of grieved affection, as in the case of Mr. Raymond. A warrior, he was called to a sphere of conflict; but scarcely had the advices of his departure been flashed through the country before, with almost lightning-like rapidity, comes back testimony—the leading, and chiefest of all, of his very antagonists, and scarcely behind that of his personal friends; a testimony to his goodness of nature, to his fidelity, to his almost inordinate industry, to his great capacity, to the purity of his motives, to the greatness of the work which he has done in this community and in this State. It is seldom that animosities are so suddenly laid aside. And it is a testimony to the goodness, to the real goodness, of this man, that those the most opposed, those whose hands were lifted up, with the pen, were the quickest to let down the pen and write his eulogy, to express their admiration, for he was a man that both loved and induced love. He was a man without hatred, I might almost say without animosities. He was a man whom the more nearly you came to him, and the more perfectly you knew him the more you esteemed him, the more you loved him. You trusted him if you knew him, and loved

him; and it is no small thing to say in this selfish world, "He is one to be leaned on." There are two things which I wish to emphasize of his public career, and only two. He stood on this widest pulpit that now is known in modern society. The lawyer has a narrow sphere before him; the Senator and the Representative—the walls hedge in their voices; the minister has his parish walls about his church. But there is a pulpit that now has no limit—it is the Press. There is, literally, the voice of one that cries in the wilderness; for all across the populous land, out into the Territories, and to the very Pacific Ocean, the daily papers speak; and there is not in modern civilization a place of power that can compare with this. And among those that have been the builders up of this great modern engine of civilization, not the founders, but the finishers, he stood the most pre-eminent. Aside from the general ability with which he conducted the press, I marked how singularly free his whole career has been from bitterness; how he refused to gain strength by advocacy of the passions; how he neither used the malign passions himself, nor excited them in others. But, rising to a higher moral sentiment, breathed it in his work, and addressed those higher feelings in those to whom he uttered himself. Now he has departed. Look back upon his career. If he wielded this mighty engine in behalf of good reason, and in behalf of pure, moral sentiments, it covers a multitude of imperfections. And this work he did. And this is no small praise. I have it in my heart, also, to say, because in common with all of you, I have heard his instability cited. I have heard it said he was weak, a "trimmer," but I never believed it. I recall that time when this nation shivered like an aspen leaf. I recall the time when one man was worth armies—those pivotal days, when what we needed, above all other things, was hope and indomitable courage. And I remember—I shall never forget to be grateful to the example of this man—he instantly, without a moment's hesitation, pressed to the very forefront, and let his voice ring out clearly, without variability, without one moment flinching, to the very end of this great conflict which has molded again our national life, and gave courage, and hope, and cheer to this great people. If this be "trimming," O! that there had been more trimmers. That duty and service, of itself, should enshrine a man's memory in a country's history, and make his name dear to all the people. I thanked him; I still thank him. And I am glad to make mention, and to bear this testimony of his fidelity in those great days when to be great required a greatness of soul. My friends, it seems impossible, when speaking of one that but a little time ago walked with us that we shall never see again that cheerful face, that we shall never take again that cordial grasp, that we shall walk with him no more, bear his counsel no more—but he is gone. Fallen in the very prime of life, the next ten years would have been worth more to him than the last twenty. He has taxed the resources of his life unduly; and has been cast down prematurely because he has not lived within the bounds of moderation in the use of himself. For obedience to God requires that there should be moderation in industries, and that there should not be inordinate activities, even in the highest and in the best spheres of life. He has gone. He can not repair the error. It may be that we shall give some heed to it, for this is the place for instruction. My

voice can do him no good; I can do him no good by praise nor by criticism. I hope that there may be some benefit to us from this solemn scene. For myself, for you, for all, is there not a lesson here? What of him now?

What are these things that engaged his powers of mind, and what are the cares, and threats, and ambitions, the stinging annoyances, the small strifes, the friction of life, the wear and tear of life—what are all these things as we stand here and look back upon them? By this hour we should measure the worth of things. What are all these things, now that are passed? How base! How useless! What best may one do? Upon this floor shall stand his memorial. He that lives not for himself, but shall associate himself for the welfare of mankind, and especially of that community in which he dwells, the work that he leaves behind him shall be his memorial. For no man is great enough to be remembered in his selfishness, and for it. You are strong, the blood beats healthfully in your veins, but in a short time you too shall be confined; and you shall be followed by those that have to speak your history. Could we, if you were called to day, speak well of you? Have you earned a right to be spoken of in this solemn hour, in this truthful hour to be spoken of gratefully, and have your name handed down to others? Are you lifted above the world, while in it, Christianly, purely, nobly? Are you living in the fear of God, and in the hope of immortality? For, surely, it is not an unmeaning service over the dead that you pay. You come here to take on the vows of a higher title. You come here to regard the urgency, the importance of life. You come here once more to rebuke your passions, once more to follow truth as it is in Jesus Christ; to take account of pride and selfishness; once more to take upon you, perhaps, vows of fidelity to God and fidelity to man. Blessed are they who, when they have passed away, need not the circumstance of adventitious circumstance or place. Blessed are they whose mourners are those that are the recipients of the kindness, or that hath made their memory dear to hearts which they have enriched.

And now, to-morrow and next week his name will be familiar, and many of us shall cherish it so long as we live. But this great thundering city is like an ocean; and as when one falling overboard gives one outcry, and the flying spray for a moment disturbs the sea, and then is whelmed, and all the roughness is smoothed down, and the ocean is no fuller than before, and the great water rolls over him, so the great multitude will forget him and pass on. You that are so important to-day may be insignificant to-morrow. You who are taking hold of the very spindles of life to-day, will drop them from your fingers, and the great waves will roll over your head. O, that God may grant to us all such a sense of our weakness and responsibility that we may so improve life that when we lay it down we may take it up again, beyond the grave, and begin a noble manhood, where death comes no more, and where there is immortality and blessedness.

The New York Times relates the following incident:

After Mr. Raymond's death there was found lying on his desk an unfinished editorial paragraph referring to Major General McDowell, probably the last words that flowed from his pen. It breaks off abruptly, leaving the sentence incomplete, as if the writer had been suddenly interrupted, at his work and called away—a sadly suggestive incident.

Railway Accidents.

The latest notable railway accident, that which occurred at Willow Tree, on the Long Island Railroad, has not only excited considerable discussion in this country as to its origin, but also some slight attention abroad. Although there can be but little doubt that the catastrophe was due to a flawed rail, some of the arguments made to show a different cause are worthy of consideration, not only as indicating various sources of possible danger in railway travel, but coming, as we shall see, from abroad, as illustrative of the light in which American railways are sometimes looked upon in other countries—this last a matter not so trifling as it may appear to some, for on it depends the estimate placed upon our railway securities in Europe.

We notice that the views advanced by a correspondent on page 309, current volume of the *American Artisan*, that the disaster resulted from the omission to properly couple the cars together, has been adduced by the *Engineer* as proof of what it asserts to be the generally defective condition of the rolling stock on American railways—the same paper coupling this inference with the statement that with us rails are subjected to a degree of rough usage unknown on English lines. This severity of usage, it is said, arises not only from the defective coupling, which allows a "wabbling" or lateral swaying of the trains, tending to burst the track, but also to an undue distance between the chairs or ties; the too frequent dispensing with fishing the joints, and negligence in laying and fastening the rails; the resulting unevenness of the track subjecting it to a hammering action from the wheels, leading to its rapid deterioration. It can not be denied that the faults of permanent way above indicated do exist in our railways to a very considerable extent. It is, however, unfair to infer that they are in any great degree responsible for the accidents that are constantly occurring—nine times out of ten with the attendant circumstance of a broken rail found among the splintered debris of the cars. For a score of years past, it has been one of the leading ideas of our railway practice to adapt cars and locomotives to the requirements of our comparatively imperfect permanent way. The result is that trains run lightly on roads where the use of the English rolling stock would produce the most destructive effects, and be, indeed, quite inadmissible. That such results would spring from the employment on our railways of the locomotives built for the firmly ballasted English lines, is quite possible; but taking into account the adaptation just mentioned of American rolling stock to meet the requirements of American permanent way, we must look elsewhere for the true origin of the numerous accidents that make the most prominent item of disgrace in the railway management of the country—and this origin is named in the old and hackneyed term of "defective rails."

The *Engineer* admits that it is moved to touch upon the topic because it nearly concerns the reputation of the Welsh iron-masters—enough to lead us to doubt the disinterestedness of its statements and the accuracy of its deductions. It very ingeniously declares, however, its "perfect knowledge that rails incredibly bad have been and possibly are made for the American market," adding a description of a piece of a rail intended for the United States which had fallen under the observation of the writer. This interesting

specimen, when run through rollers to be made flat for piling, "went to pieces as though formed of cast iron," the bar consisting for the most part of cinder enveloped by a thin covering of good iron. The fabrication of a class of poor rails, especially for the American market, is a thing no longer denied by those at all conversant with the subject, and to the use of such rails may be directly traced the accidents that from time to time thrill the community with a deep, though evanescent horror. Even if this were not so, however, our English cotemporary need to have shown no haste in defending the British iron-masters from the odium cast upon the inferior products of their works, for the simple reason that the thoughtful portion of the public in this country are fully disposed to charge a greater culpability upon the management of our railways, which by providing a market for poor rails is indirectly responsible both for their manufacture and for the casualties that may result from their use.—*Artisan*.

NORTH CAROLINA GOLD.—At the Reed Gold Mine, in Cabarrus County in North Carolina, in the year 1803, the proprietor, John Reed, found a nugget of gold that weighed 28 pounds—the currency value of which, at this time, would be about \$9,000. In 1824, at this same mine, another lump was found that weighed 16 pounds, and in 1835, still another, that weighed 13½ pounds, and, at various other times, numerous smaller lumps, that weighed from two to nine pounds. So late as the year 1865, at a mine in Lincoln Co., two lumps were found that weighed in the aggregate 11½ pounds, the larger lump having almost the exact size and shape of a turkey's egg.

A SHIP-CANAL ACROSS NEW YORK.—The President and Board of Trustees of the village of Dunkirk have memorialized the State authorities in favor of a ship-canal from Oswego to Albany. The route proposed is by the Oswego River, Oneida Lake and the Mohawk River slack water navigation, thus providing for one hundred and thirty-five miles of the route, and about fifty miles to be by new canal. The Grand Canal of China was constructed in this manner. The proposed improvement, it is asserted, will permit ships to reach New York City in ten days from the Straits of Mackinaw.

Proposals are invited for the construction of 165 miles of the Memphis, El Paso and Pacific Railroad—15 miles of which are between Jefferson and Paris, Texas, and 150 miles extending westward from Paris to Palo Pinto County. Work upon the first 15 miles to be completed by March, 1870, and upon the remainder by October 1, 1870. The office of the company in New York is at 66 Exchange Place, where bids will be received until the 1st of September. Profiles, maps, plans, etc., can be examined after the 15th of August. Specifications will be furnished after the 1st of August.

The receipts of the Western Union Railroad Company for the week ending June 14:

	1869.	1868.	Increase.	Decrease.
Freight.....	\$15,457 66	\$14,992 83	\$554 83	
Passengers.....	4,102 10	3,702 25	699 85	
Express & Tel.....	350 00	350 00		
Mail.....	375 00	375 00		

Totals..... \$20,544 76 \$19,330 08 \$1,254 68

Receipts from January 1, to June 14:

1869.....	\$291,027 18
1868.....	\$281,485 04

Increase..... \$9,542 10

CHICAGO RAILROAD CONNECTIONS.—The following new roads are building with reference to a connection with Chicago:

1. The Moberly (Missouri) Railroad, from Quincy south-west to Jefferson, Mo., tapping the roads leading to St. Louis.
2. The extension of the Muscatine branch of the Chicago & Rock Island Railroad, called the Chicago & South-western Railroad, and leading to South-western Iowa.
3. The Turkey Valley Railroad, north-west from Dubuque, now rapidly building.
4. The Dubuque & Minnesota Railroad, northward up the Mississippi River.
5. The Chicago & St. Paul R. R., from Chicago north-west.
6. The Chicago & Danville Railroad, from Chicago south.
7. The Decatur and East St. Louis Railroad, from Chicago southwest.
8. A road from Peru, Indiana.
9. A road from Lafayette, Indiana.
10. The Michigan Air Line Railroad, from Fort Huron west to Chicago.
11. The East Shore Railroad, from Grand Haven to connect with the Michigan Central at Michigan City.
12. The Indiana & Mackinaw Railroad, the northern part of which above Kalamazoo, will be a direct feeder to Chicago.
13. The Northern Wisconsin R. R., from Elkhorn to Chicago.
14. The Forrester and Hyde Park Railroad, from Rock River east to Chicago.
15. The Dubuque & Sioux City, absorbed by the Illinois Central Railroad.
16. The Mississippi & Missouri Air Line Railroad, from Keokuk to Brownsville, Nebraska, connecting with the Illinois Central at Keokuk.
17. The Peru, Pekin & Jacksonville Railroad, furnishing a new route to St. Louis via the Rock Island Railroad to Jacksonville.

IRON MANUFACTURE IN WESTERN PENNSYLVANIA.—The *Mahoning Register* says: We are indebted to Joseph Barclay, Esq., the assessor of this township, for the following statistics of pig iron manufactured in this township during the year ending April 10, 1869:

	Tons
Brier Hill Iron Company.....	16,184
Andrews Brothers.....	8,502
Eagle Furnace Company.....	7,275
Himrod Furnace Company.....	11,904
Brown, Bonnell & Co.....	13,448

Total.....57,313

The product for the entire county for the previous year was 47,900 tons, so that the product of this township this year, notwithstanding two months of enforced idleness during the strikes, was nine thousand four hundred and thirteen tons greater than that of the entire county the year before, and the Youngstown township alone produces more pig iron this year than any other county in the State for the previous year, by thirty thousand six hundred and sixty eight tons. Our township can fairly claim the lead in this product, as will be seen conclusively by the above figures.

T. F. Randolph,
MANUFACTURER OF
MATHEMATICAL INSTRUMENTS,
SURVEYOR'S COMPASSES, TRANSITS, LEVELS,
DRAFTING INSTRUMENTS, &c.,
67 W. Sixth St., Cincinnati, O.
Also Brass Castings and Models made for Patent office.

WRIGHTSON & CO.,

Railroad Printers

167 Walnut Street,

CINCINNATI, O.

HAVING MADE RAILROAD PRINTING A

SPECIALTY,

We would respectfully call the attention of Superintendents, General Ticket and Freight Agents to the class of work we are now producing.

Bulletin Boards,

STRETCHERS,

Illuminated and Plain Show Cards

CONSECUTIVELY NUMBERED

COUPON AND LOCAL TICKETS,

Bills Lading,

Way Bills,

Blank Books,

AND ALL WORK INCIDENT TO RAILROAD OFFICES,

Got out in first-class style, and at as low rates as any establishment in the country.

SUSPENSION

COUPON TICKET CASE.

BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the long-end package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF FORMS.	PRICES.	SIZE NO. OF FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms and also with working plans, if desired.

BACON & EVERINGHAM,
Milwaukee, Wis

All orders addressed to us will receive prompt attention.

WRIGHTSON & CO.

167 Walnut St., Cincinnati,

R. W. CARROLL & CO.

Wholesale and Retail

BOOKSELLERS AND STATIONERS,

No. 117 West Fourth Street,

CINCINNATI, O

Keep always in stock a full assortment of

BOOKS & STATIONERY AT LOWEST PRICES.

BLANK BOOKS

Of any desired pattern made to order promptly.

Particular attention paid to BLANK BOOKS and BLANK WORK for

RAILROADS, BANKERS,

MERCHANTS, INSURANCE COMPANIES,

MANUFACTURERS, EXPRESS COMPANIES,

PUBLIC OFFICES, Etc., Etc.

BINDING OF ALL KINDS NEATLY EXECUTED.

Those desiring FIRST CLASS BOOKS can have them done satisfactory at reasonable prices.

R. W. CARROLL & CO.

117 West Fourth Street, 2 doors east of Race.

WM. MERCER, R. B. MORE, GEO. STODDARD
Late Master Car Builder C.H. & D. & M.

MERCER, MORE & CO.,

BUILDERS OF EVERY DESCRIPTION OF

RAILROAD CARS

Cambridge, Ind.

REFERENCES.

W. H. MITCH, Pres't, C. & L. C. Railway, Columbus, O.
M. RIDENOUR, Pres't, C. & I. J. R. R. College Cor., Ind.
J. M. LUNT, Sup't, C. & C. R. R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C. H. & D. R. R., Cincinnati.
J. H. WELLER, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton
O. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., Indianapolis
Aug 2, 1869.

THE

STEAM SYPHON PUMP

IS THE

*Most Simple, Effective and Durable Device for
Raising Water by steam, yet discovered.*

It is an independent LIFT AND FORCE PUMP, without piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP.

WITH THE

STEAM SYPHON WATER-STATION

A locomotive can raise water, with its own steam, to fill its tender in the same time as from an ordinary tank; thus dispensing with tanks, pumping machinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops
Shops, Elevators, &c.,

AND BY FAR,

THE BEST BILGE PUMP,

for Steam Vessels, in use

For Circulars and other information, address,

STEAM SYPHON COMPANY,

48 Day Street,

NEW YORK.

MISSISSIPPI RIVER RAILROAD.

To Contractors.

Sealed proposals will be received by the undersigned, at the office of the Company, No. 450 Main Street, Memphis, Tennessee, until 12 o'clock M., on the

20th day of July, 1869,

For the clearing, graduation, masonry, bridging and cross-ties necessary to complete the above road from Memphis to Covington, about thirty-six miles, ready for the iron rails. A large portion of the work is heavy and well worthy the attention of contractors, as it is the intention of the Board to place the entire road to Cairo under contract as soon as the surveys are completed.

Proposals may be made for cash, or for county bonds, or for part cash, county bonds and stock.

Plans, profiles and specifications are now ready for inspection at the Company's office, by application to Thos. H. Millington Chief Engineer, from whom all necessary information may be obtained.

Proposals will be received for the whole work, or in divisions. The right is reserved to reject any and all bids not deemed satisfactory.

(Signed)
24-6-93.

A. S. MITCHELL,
President Mississippi River R. R.

THROUGH —FROM— CINCINNATI TO NEW YORK WITHOUT CHANGE OF COACHES!

—VIA—

Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W. Railway, on Saturday Morning, by the 6:00 a.m. Lightning Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next day, Sunday

2 Through Lightning Express Trains for New York, Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6.15am.....	7.10pm
" Dayton.....	8.35 ".....	9.30 "
Arrive West Salem.....	1.50pm.....	4.53am
" Leavittsburg.....	4.55 ".....	7.35 "
" Meadville.....	7.35 ".....	11.10 "
" Susquehanna.....	7.48am.....	11.29pm
" Paterson.....	2.25pm.....	6.03am
" New York.....	3.15 ".....	7.00 "
" Boston.....	5.45am.....	4.45pm

Sleeping Coaches on Night Trains the entire distance between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday night instead of Saturday night. All other Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
At Mansfield with Pitts. & Ft. Wayne
and Chicago Railroad.

THIS IS THE ONLY ROUTE

TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely new, of the most modern, substantial, and approved description, unequalled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all Trains.

Ample time is allowed, at all hours,

for meals.

No effort will be spared by the Company to render a trip over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE CHECKS,

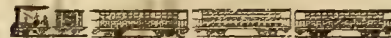
Apply in Cincinnati at New Depot of Cincinnati, Hamilton and Dayton Railway; or at northeast corner of Broadway and Front streets, and at No. 80 Fourth street, nearly opposite Post Office. Also at any of the principal Railroad and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. BUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1866, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a.m. and 18:00 p.m. On Sundays, one Express Train at 8:00 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change; cars to Chicago or Cincinnati, and but two to St. Louis. Passenger: front to East by Sound Boats or by Rail to the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK

(Leave New York from foot of Liberty street, N. E.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m., Pittsburgh 12 night.

9:00 a.m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 8:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—Express Train from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN, from the West, leaving Pittsburgh at 4:30 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at 7:09 a.m. Through cars from Pittsburgh to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pittsburgh at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:32 a.m.; Allentown at 12:02 p.m.; Easton at 1:11 p.m. Through cars from Pittsburgh to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing Reading at 10:40 a.m.; Allentown 12:30 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

2:10 p.m.—FAST MAIL, from the West, leaving Pittsburgh at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 10:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO

ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive.
St. Louis & Chicago Ex.....	7.00 A. M.	9.10 A. M.
Springfield & St. Joseph Ex.....	12.00 P. M.	4.30 P. M.
St. Louis & Chicago Ex.....	4.55 P. M.	12.15 A. M.

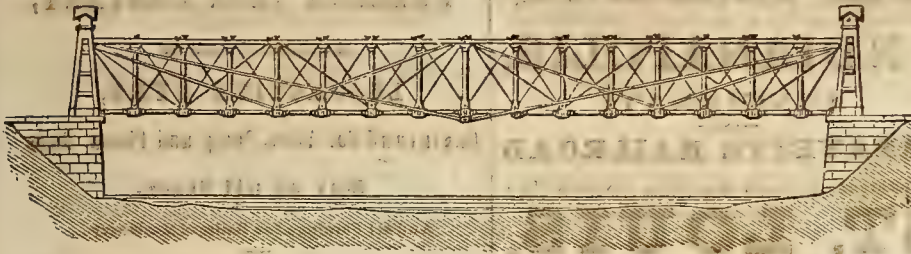
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5.15 P. M.	5.05 A. M.
Harrison Accommodation.....	10.10 A. M.	2.25 P. M.

Through Ticket can be obtained at the Burnet House, Spencer House and Gibson House Offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

Letter Box, 1392.

M. W. BALDWIN.

MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pairs of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and all the details to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunity of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moar Tires (to fit centers without bolting), Composition Castings for Bearings, every description of Copper, Sheet Iron and Boiler Work, and every article appertaining to the repair or renewal of Locomotive Engines.

KNOX & SHAIN,

ENGINEERING & TELEGRAPHIC

INSTRUMENT MAKERS

Philadelphia, Pa.

W. M. F. HEWSON,

STOCK BROKER,

21 WEST THIRD STREET, CINCINNATI.

Buy and sell Stock, Bond and other Securities on Commission only. Negotiates Loans and makes collections.

AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
S. E. Cor. Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,

No. 27 W. 3d St., Cincinnati.

W. P. SHINN General Freight Agent,
Pittsburg Pa.

PITTSBURG & CONNELLSVILLE R. R.

ENGINEER'S OFFICE, PITTS. & CONNELLSVILLE R. R.,
Pittsburg, June 3, 1869.

The graduation, masonry and ballast, upon the following Sections of the Pittsburg & Connelleville Railroad, have been allotted, by the President and Directors of the Company, to the parties named below in connection with the same, viz:

To Ralph Jones & Co.—Sections 67, 68, 69, 70, 71, 72, 73, 74, 75, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105.
To John Donaghy & Brothers—Sections 107, 113, 114.
To Meyer, Brodhead & Co.—Sections 113, 111, 120, 121, 122, 123, 124, 125, 126, 127.
To Dewees & Clark—Sections 118, 119.
To Patrick Keating—Section 108.
To John Wilhelm—Section 109.
To Edward Kerns & Brother—Sections 131, 132, 137.
To Bracken & Fitzpatrick—Section 133.
To B. B. Gouder—Sections 134, 135.
To Alexander B. Buchanan—Section 136.
To P. R. Howley—Section 18.
To George W. Harrison—Section 139.
To Nathan Shipley—Sections 141, 142.
To Manfull & Ross—Sections 77, 78, 79.

The remaining 35 sections between Connelleville and Cumberland, having been contracted for previously, the whole line of 86 miles, between those points is now under contract to responsible parties, and there will be ample and steady employment for about one year on during this year and the next.
BENJ. H. LATROBE,
Chief Engineer.

MANUFACTURERS, IMPORTERS & DEALERS

—IN—

Railroad, Car and Machine Shop

SUPPLIES,

—AN—

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

121 West Front Street, Cincinnati.
300 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and best material, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight. All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.

Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel Tyres

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly for the celebrated Wheels, either single or double flange, with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner, on the shortest notice, and on the most reasonable terms.

GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

-TO-

BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,

WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**

From Cincinnati or Columbus to Baltimore and but ONE CHANGE to Philadelphia and New York.

Ask for TICKETS and BAGGAGE CHECKS via Baltimore & Ohio R.R.

J. L. WILSON, Master of Transportation.
 L. M. COLE, General Ticket Agent.
 G. B. GIBSON, General Western Passenger Agent.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit..	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail..	7 00 A. M.	5 25 P. M.
Richmond & Chicago..	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond..	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada..	6 00 P. M.	10 30 A. M.
Hamilton Accommodation..		6 45 A. M.
Richmond & Chicago..	7 00 P. M.	9 20 A. M.
Hamilton Accommodation..	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Bureau House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
 Omnibuses call for passengers.

JANUARY 5th, 1868.

Cincinnati to St. Louis Without Change of Cars.

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave	12 20 p.m.	2 10 "	
Arrive VINCENNES	5 15 "	6 35 "	
Leave	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine Street, Corner Front and Broadway; and at Depot, Foot Mill Street.

C. E. FOLLET Gen. Passenger Agent
 J. W. CONLOGUE,
 General Superintendent

Best Route to St. Louis and Chicago

INDIANAPOLIS,
CINCINNATI
 -AND-
LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,
CAIRO,
CHICAGO,

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha
 And all Rail and River Towns and Cities in the West, North west and South-west.

5 THROUGH TRAINS DAILY,
 (Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express..	7.00 am	10.50 pm
Indianapolis and Cairo Express.....	6.30 am	2.30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago.

Elegant Sleeping Cars on all night trains.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.10 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.0 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
 A. E. CLARK, General Ticket Agent.

MOSELEY'S WROUGHT IRON ARCH**BRIDGES,**

AND

CORRUGATED IRON ROOFS

"ARCHED AND FLAT."



CORRUGATED SHEETS, OF ALL SIZES, CONSTANTLY ON HAND, PAINTED, AND READY FOR SHIPMENT, WITH INSTRUCTIONS FOR APPLYING THEM.

MOSELEY & CO.
 Boston, Mass.

EDWIN J. HORNER,

Successor to

"McDANIEL & HORNER,"**Locomotive and Railroad****CAR SPRING MANUFACTURER****Wilmington, Delaware****FREEDOM IRON COMPANY,**

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engines and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn**JOHN A. WRIGHT, Sup't.**

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works June 9

THE SCHENECTADY
LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.,

Continue to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING
LOCOMOTIVE ENGINES

AND OTHER

Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding their work to any part of the country without delay.

JOHN ELLIS, President,
WALTER McQUEEN, Sup't.

PASCAL IRON WORKS.
 ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas, Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1½ to 24 inches in diameter, and branches, for same, &c.,
Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS,
THOS. T. TASKER, JR.,
HY. G. MORRIS.
CHAS. WHEELER
S. F. M. TASKER

Philadelphia, Wilmington & Baltimore
RAILROAD!

**FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. (Express); 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West, 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS.—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD, }
T. WRIGHTSON. } Editors

CINCINNATI:
THURSDAY, JULY 1, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

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" " per month..... 3.00
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Arrival and Departure of Trains.

ERIE, AND ATLANTIC & GREAT WESTERN.
Morning Express leaves 6:00 A. M.; arrives in New York 3:15 P. M., next day.
Fast Express leaves 9:15 P. M.; arrives in New York 7:00 A. M. second morning.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	3:15 P. M.
Fast Line.....	4:00 P. M.	10:00 P. M.
Lightning Express.....	10:00 P. M.	6:00 P. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillsboro Accommodation.....	2:40 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:55 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.)....	6:40 A. M.	5:30 P. M.
do do.....	9:15 P. M.	6:00 A. M.
Toledo, Detroit & Canada.....	6:15 A. M.	10:25 P. M.
do do.....	7:00 P. M.	7:25 A. M.
Lima, Ft. Wayne & Chicago.....	6:15 A. M.	10:25 P. M.
do do.....	2:30 P. M.	6:40 P. M.
do do.....	7:00 P. M.	7:25 A. M.
Sandusky, Cleveland & Buffalo....	6:15 A. M.	6:40 P. M.
do do.....	7:00 P. M.	10:20 A. M.
Connersville & Indianapolis.....	6:15 A. M.	10:25 P. M.
do do.....	2:30 P. M.	4:15 P. M.
Connersville & Newcastle.....	6:00 A. M.	10:20 A. M.
Hamilton, Eaton & Richmond.....	6:15 A. M.	10:25 P. M.
do do.....	5:00 P. M.	10:26 A. M.
Hamilton Accommodation.....	9:30 A. M.	8:05 A. M.
do do.....	6:30 P. M.	6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION

Connersville, Rushville and Indianapolis Mail.....	6:15 A. M.	10:20 P. M.
St. Louis and Indianapolis Exp.....	2:30 P. M.	4:15 P. M.
Cambridge City and Newcastle.....	6:15 A. M.	10:00 A. M.
Cambridge City and Newcastle.....	6:00 P. M.	10:25 P. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:00 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	6:00 A. M.
New York Express.....	10:00 P. M.	5:00 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.
St. Louis & Cairo Express..... 6:30 A. M. 8:45 A. M.
Springfield Express..... 3:40 P. M. 3:48 P. M.
St. Louis Lightning Express..... 11:00 P. M. 1:15 A. M.
Lawrenceburg Accommodation..... 10:00 A. M. 2:35 P. M.
do do..... 4:45 P. M. 8:10 A. M.
Franklin, Martinsville & Gosport 6:30 A. M. 3:48 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:00 A. M.
Harrison Accommodation.....	6:05 P. M.	6:42 A. M.
Chicago and Cambridge City.....	6:30 P. M.	10:15 P. M.

OHIO AND MISSISSIPPI.

For St. Louis, Cairo.....	7:00 A. M.	6:00 A. M.
Evansville and Louisville.....	5:10 P. M.	9:00 P. M.
Only Sunday trains are 5:10 P. M., leaving, and 6, A. M. arriving.	10:15 P. M.	11:15 P. M.

KENTUCKY CENTRAL.

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

Cincinnati Southern Railway.

The Objects and some of the Consequences of Making the Grand Southern Road in Reference to the City of Cincinnati.

When Cincinnati voted to make the Southern Railroad she did the most important act, as a city, which has been done in the last twenty years. Cincinnati has latterly been fighting with half her force in regard to all other cities in the West. She stands in a great valley, one-half of which is cut off from her; for, it is undeniable, that south of the Ohio she has but a few miles of tributary country. The effect of this, in latter years, is that the growth of Cincinnati has been slow, its trade dull, merchants complaining, and strangers saying, "Cincinnati has not half the enterprise of cities West." This is not altogether true, but it is to some degree. We propose to set forth, not for the sake of argument, for that is over, but in order to encourage citizens in the work they have undertaken—some of the great results we confidently expect to flow from the completion of a Southern road. This week the Cincinnati & Louisville road was completed and put in operation. We undertake to say that this Louisville direct line will have an immediate and great effect in favor of Cincinnati, yet it is not of the tenth part of the interest to this city which the Southern road will be. The Louisville road will make a line to Memphis and Nashville, but the Southern road will make a dozen lines to the whole interior of the South. This we propose to show, and, as a consequence, what may be expected from it to the growth and commerce of Cincinnati. In 1855 the writer made a report on this subject, adopted and reported by the Chamber of Commerce. At that time Knoxville was assumed as the Southern terminus, but as the trunk line goes to Knoxville just as much as to Chattanooga, the argument remains just the same for either place. The great object Cincinnati has set forth in that report. In an elaborate argument for the growth and extension of Cincinnati, the report says:

"3 Another cause, and a most forcible one, of future growth to Cincinnati, is found in the extension given by the area of commerce by a connection with the Southern railways. In Art. III we showed, that there were in the South and South east an immense territory, which has heretofore been supplied from the sea board with articles of manufacture and merchandize, which by railways would be brought within the exclusive commercial control of Cincinnati. The addition thus made to the commercial territory would be half of Georgia and the Carolinas, and one-third of Alabama, Tennessee and South-western Virginia, a territory comprising 80,000 square miles. This would be an entire addition to the present commercial area of the city, and in it she would have no competitor. In the article on railways we have shown that less than 300 miles of additional railway in Kentucky and Tennessee would make this entire addition. In fact, the connection between Lexington and Knoxville

alone would accomplish it. Contemplating the value and magnitude of such a result, we can not doubt that it will be speedily accomplished; and when done, it will at once afford business and support to at least one hundred thousand people—more than the city will have without it."

Thus it will be clearly set forth that a railroad was desired from Cincinnati to Knoxville, because it would secure the trade of half of Georgia and the Carolinas, and one-third of Alabama, Tennessee and South-western Virginia. This was the general scope of the country to be reached, though, as will be shown, a much larger extent of country would be reached by less than 300 miles of new railroad. Connecting with this object of securing the trade of this immense interior region is that of obtaining the most direct line to the Atlantic and thence to Europe. If 800 miles of costly railroad to New York could make it profitable to carry the produce of the Ohio Valley there for shipment to Europe, surely it could not be less profitable, or less desirable, to ship from Charleston with considerably less railroad transportation. And if it be profitable to have one great shipping port in the East, it can not be unprofitable to have competition in the South. In the following table, published by the Chamber of Commerce in 1855, will be seen the precise relations which each Western city bore to each Atlantic port:

	CINCINNATI.	LOUISVILLE.	St. Louis...	CHICAGO...
	Miles.	Miles.	Miles.	Miles.
To Boston.....	750	830	1,054	870
To New York.....	570	650	885	730
To Philadelphia.....	500	580	825	700
To Baltimore.....	430	490	750	640
To Charleston.....	500	500	720	770
To Mobile.....	640	550	570	790
To New Orleans.....	720	625	640	840

"The above table proves Cincinnati to be nearer the Atlantic and the Gulf, at every point, than Chicago; and nearer than St. Louis and Louisville to every point, except Mobile and New Orleans."

The harbor of Norfolk is slightly nearer, on a straight line, than any Atlantic port, but Norfolk will be connected with Cincinnati by the Chesapeake & Ohio Railroad, now in course of construction. Baltimore is nearest to tidewater, but not to the Atlantic. The question, however, of a Southern road from Cincinnati does not concern them. Cincinnati is nearer to Charleston than to any point on the ocean from Norfolk to the Rio Grande, but is not nearer to Mobile or New Orleans than St. Louis and Louisville. Hence, it is at Charleston, and in the direction of Charles-

ton only, that Cincinnati can secure the trade of the South, without any successful competition. Now, if it were simply a question of going to Charleston, Knoxville and Chattanooga would be west, instead of east, of the true line; for the straight line from Cincinnati to Charleston passes considerably east of Knoxville. But railroads can not be made on straight lines, and hence it was that Charleston, in seeking an intermediate connection with Cincinnati, was compelled to adopt what is called the Blue Ridge Railroad route, through the Rabun Gap and leading by necessity to the vicinity of Knoxville. This leads us to consider the situation of Knoxville as an interior center.

2. The geographical position of Knoxville and Chattanooga. The great systems of internal improvement ought not to be limited by the position or interests of any one town, unless it be a great commercial center, like New York, Cincinnati or St. Louis; but if nature has created a spot which, in its relation to other places, is specially adapted to be a railroad center, that fact should be regarded, whether the town be great or small. Let us examine Knoxville or Chattanooga in their geographical and railroad connections. Suppose now, the reader take a pair of dividers, and, making Knoxville the central point, and from Knoxville to Cincinnati the radius, sweep a circle, and what will he find on or within the circumference of his circle? He will find it strikingly nearly Charleston, Salisbury, North Carolina, Columbia, South Carolina, Macon, Georgia, Talladega, Alabama, Columbia, Tennessee, and Princeton, Kentucky. The surface within this circumference is about 105,000 square miles, and contains the best portion of Georgia and Alabama. On the west of this circumference in Kentucky and Tennessee are about 20,000 square miles, which is within the natural and commercial influence of Louisville; but to make this up Cincinnati, by the East Tennessee connection, acquires much more commercial territory in the middle of North and South Carolina. Could she acquire that by going West? Would a gain in that direction give her more than a competition with Louisville, St. Louis and even Chicago? That Cincinnati would like to get the whole trade of the rich South-west is true, but there are no means by which she can get the exclusive control of that trade. On the contrary, it must be shared with Louisville, St. Louis, and every town on the Upper Mississippi. In East Tennessee no such competition will ever take place. No competition with Cincinnati can exist there, except in cities which naturally grow up in the country itself. Charleston will be too busy with her Atlantic and cotton trade to interfere with the market for Cincinnati products. And the double shipments, greater distance and interior freights will effectually prevent New England manufacturers from

rivaling those of Cincinnati in the interior of the South. It is plain that all the railroads from the Valley of Virginia, from North and South Carolina and from Georgia, must, by necessity, come to or near a point in East Tennessee, in order to pass on to the West or North. Virginia has her outlet to the South-west through the Valley; North Carolina must come through the French Broad; South Carolina must come through the Rabun Gap, by the Little Tennessee, and even Georgia finds her northern outlet by Dalton to Knoxville. It is true that both Georgia and Alabama may wend to the west of the main mountain chains, but if Cincinnati were to diverge in that direction she would, so far, go away from her great object in the interior South, to seek another of doubtful results. Chattanooga is as far West as the point of connection can be made, without competition from other cities to the West.

Having thus shown the immense territory to be gained at the South, and the connections with Southern States, we shall endeavor in another number to show the commercial value of those connections.

Cincinnati Southern Railway.

The following communication is from a very intelligent and prominent citizen of Southern Kentucky, a friend of Cincinnati and an advocate of progress. He has several times represented his county and district in both branches of the State Legislature, and although he advocates a special route for the Cincinnati Southern Railway through the State of Kentucky, yet we can count on him as our friend, no matter which way it goes. We have no doubt the Trustees, being all competent business men, will not decide upon any route until a most thorough examination has been had—the best selected, and “fair play” shown to all:

T. Wrightson, Esq., Cincinnati, O:

The terminus of the Southern Railroad having been fixed, the vote submitted and carried by an overwhelming majority, the Trustees now about being appointed, the next question of greatest moment is the location of the road. It may be taken for granted that the Trustees having this matter of location in charge will not want for advice, instruction and information in regard to their duties. The rival routes, the varied interests, personal and public, to be subserved by the location of this road will insure that the Trustees shall not want for any “good thing” in determining where this road should run. If it may not be regarded as presumptuous, I propose, through your columns, to make a few practical suggestions in regard to the location of the road in and through the State of Kentucky.

1st. The road must either be located on some one of the several routes already char-

tered by the Legislature of Kentucky, or a new and different one be adopted, and the right of way and corporate franchises hereafter secured by legislative enactment. As a friend of the proposed road and one desirous of seeing the road made, *let it run where it may*; I warn the people of Cincinnati and the Trustees of this road against the idea of looking to the Legislature of Kentucky for the grant of an independent charter to be used, managed, controlled and run wholly in the interests of Cincinnati. The rival interests that would be brought to bear against this move, the jealousies of party politics, State pride, State rights, home interests, and, whether rightfully or not, all forbid it. Some one of the routes already chartered must therefore be adopted and hereafter amended so as to subserve the purposes contemplated by the projectors of this road.

2d. It will, of course, be expected that the location will be made after surveys and estimates have been made, upon that route that will be most practical and, at the same time, most beneficial to Cincinnati. It is needless to think of making, strictly speaking, an air line road to Chattanooga. In making the location therefore, whilst it should be as near straight as possible and a trunk road, the advantages of trade, travel and the connections made, must not be lost sight of—indeed, should control the Trustees in making the location.

In both of these particulars the route known as the Danville and McMinnville route *via* Columbia and Burksville, Kentucky, offer superior advantages to any other. A most liberal charter was granted by the last Legislature of Kentucky to this company, either to go from Danville *via* Lebanon, Kentucky, or through Casey County, either of which routes would be eminently practicable, and then it empowers the directors to either sell or lease its franchises. What better could be done, so far as right of way and corporate franchises could be done, than to buy or lease this right of way? But this is not all that would be secured by selecting this route. It possesses advantages that no other route in Kentucky can offer in connecting at the Tennessee State line, near Burksville, Kentucky, with a road now being built and nearly completed, that connects as well with Nashville as Chattanooga, and thus with the south-western connections made at Nashville, Memphis and New Orleans. It is to be expected that those to be benefited by the respective routes will feel more or less of selfish and personal interest in the location of this road, but on behalf of those who are asking that the Danville and McMinnville route be selected. We invite the Trustees, engineers and all others concerned, to survey and examine this route, and then to act in the light of what you may find out, and for the best interests of the people whom you are called to serve.

ADAIR COUNTY.

Cincinnati Southern Railway.

Since our last issue the question of the Cincinnati Southern Railway has been conclusively settled by the vote of the citizens of Cincinnati. For a special election, without the usual incentive of supposed direct individual interest in the result, without the expenditure of money to and through rallying committees, or the usual flow of "lager" and "liquor" to raise the "spirits" and increase the "enthusiasm" of the occasion, the vote is a very large one and can not fail to be gratifying to the friends of the city and the enterprise. The road is, of course, not built yet. There is much hard work to do. The result, however, of the election must be favorable to business interests and industries of the city. **15,438** "for providing for the construction of said line of railway," and only **1,500** against, is a unanimity in favor of the measure that even its most sanguine friends scarcely dared to anticipate.

On Monday, the 28th, the City Council, at special meeting, had the following action on the subject:

In response to a call, Council met yesterday afternoon at 2½ o'clock, for the announcement of the vote on the Southern Railway, the passage of the tax ordinance and the consideration of other business.

At half past 2 o'clock twenty-one members answered to their names, and the President directed the reading of matters connected with the Southern Railway. And first was read the following letter from the Mayor:

MAYOR'S OFFICE,
CINCINNATI, June 28, 1869. }

To the Honorable the City Council of the City of Cincinnati:

GENTLEMEN: In pursuance with the resolution of your honorable body, passed June 4, 1869, the accompanying proclamation (the proclamation of the Mayor accompanied the communication) giving notice of the time and places of holding the special election to decide for or against a line of railway between Cincinnati, Ohio, and the city of Chattanooga, in the State of Tennessee, was published in all of the daily papers of said city for more than 20 days prior to the 26th of June, 1869, the day of special election.

In testimony whereof I have hereunto set my hand and the seal of said corporation, this 28th day of June, 1869.

[Signed] JOHN F. TORRENCE, Mayor.

The following communication was then received from the Clerk's office:

To the Honorable the City Council:

We do hereby certify that, having met in the office of the City Clerk of the city of Cincinnati, on the 28th day of June, 1869, for the purpose of examining the returns of the election held on the 26th day of June, 1869, to decide for or against providing a line of railway between Cincinnati and Chattanooga, as provided, to examine the poll books and tally sheets of the several wards, and found the total number of votes cast for providing said line of railway to be fifteen thousand four hundred and thirty five, and the total number of votes cast against providing said line of railway to be fifteen hundred.

[Signed] JOHN F. TORRENCE, Mayor.
Attest: J. F. BLACKBURN, City Clerk.

The following resolution, presented as the communications had been, by the Chair, was then read:

WHEREAS, The Mayor has certified that in pursuance of the resolution of Council of June 4, 1869, he had given notice by his proclamation, published in all the daily papers of the city, of the holding of a special election on the 26th day of June, 1869, to decide for or against providing a line of railway between Cincinnati and Chattanooga; and

WHEREAS, The City Clerk has this day also laid before Council the returns of said special election, whereby it appears that at said special election there were cast 15,435 ballots of the qualified electors of the said city of Cincinnati for providing said line of railway and 1,500 against the measure. Now, therefore, be it

Resolved, And it is hereby declared by the City Council of the said city of Cincinnati, that the result of the said special election is that a majority, amounting to 13,935 of the votes cast at said special election is in favor of providing said line of railway between the city of Cincinnati, Ohio, and the city of Chattanooga, in the State of Tennessee."

The resolution was carried by a unanimous vote, the following members responding to their names: Benninger, Bonte, Buente, M. Corbett, Doan, Doherty, Eckert, Eckelman, Hill, Jones, Kahn, Kinsey, Loder, Maley, Moore, Morgan, Schwenker, Siefert, Schultz, Von Seggern, Wagner, Wolf, Mr. President—23.

Cincinnati Southern Railroad.**THE VOICE OF THE PEOPLE.**

Pursuant to the Mayor's proclamation the polls in each of the twenty wards of this city were open yesterday for twelve hours, from 6 A. M. to 6 P. M., to give the people an opportunity to vote for or against the issuing of ten millions of bonds by the city of Cincinnati for the construction of the Cincinnati Southern Railroad from Cincinnati to Chattanooga.

In nearly all of the wards there was a fair vote cast—much larger than had been hoped for—and in every ward the result was overwhelmingly FOR. The largest vote ever polled in this city was in October last, 31,971. The vote yesterday was 16,938, of which **15,438** WERE FOR THE CINCINNATI SOUTHERN RAILROAD, AND ONLY **1,500** AGAINST—or ten and a fraction for to every one against. The following is the full report by wards:

WARDS.	FOR.	AGAINST.
First ward.....	729	67
Second Ward.....	545	16
Third Ward.....	666	86
Fourth Ward.....	474	74
Fifth Ward.....	685	26
Sixth Ward.....	579	43
Seventh Ward.....	649	81
Eighth Ward.....	1,351	232
Ninth Ward.....	775	132
Tenth Ward.....	1,032	93
Eleventh Ward.....	580	40
Twelfth Ward.....	1,160	41
Thirteenth Ward.....	626	49
Fourteenth Ward.....	760	52
Fifteenth Ward.....	1,210	79
Sixteenth Ward.....	1,194	204
Seventeenth Ward.....	257	81
Eighteenth Ward.....	1,052	74
Nineteenth Ward.....	807	27
Twentieth Ward.....	304	3
	15,438	1,500

The Southern Railroad.

Appointment of Five Trustees—Remarks of Judge Storer—The Contemplated Work a Real Bond of Union Between the North and South.

SUPERIOR COURT.

Judges Storer, Taft and Hagans having taken their seats on the Bench at 10 o'clock, Judge Storer proceeded to announce the conclusion of the Court in reference to the appointment of Trustees for the Southern Railroad.

He said: "A petition has been filed by the Solicitor of the city, asking us to appoint Trustees under a law of the last session of the Legislature. It has been certified to us that the preliminary steps required to be taken by the City Council have been followed, and that the resolution thus passed by that body has been adopted by a large majority of the qualified electors of the city.

"It is our duty now to perform the function devolved on us by the Legislature, and we may here be permitted to remark, that, as in every other case submitted to us, we feel not only the responsibility of Judges, but of individuals also. It is a responsibility that can not be avoided by the recommendations of good men, or by the suggestions of those who might not be willing to abide by our opinion. Whether the duty is a judicial or a ministerial one, it is ours alone—it belongs to us—and we can only have any assurance that we have performed it when we are justified by our own consciences, as the facts may appear to us.

"It is proper to remark that the work in which the city, so far, by its constituted authorities as well as by the voice of its citizens, has undertaken to perform, is one that does not depend so much on their will, thus expressed, as on the ability, morally and financially, of the Trustees whom we are now about to appoint; and we have endeavored, therefore, to select from the many good men of our city to fill this important office those who we believe from their position in the community, and from their known integrity, energy and capacity for business, may safely be confided in. We have endeavored to avoid all private interest. It has been our great aim to select those who we are satisfied will perform the obligations of their office intelligently, uprightly and for the benefit of the city, and not for themselves. We have, therefore, under the solemn obligation confided to us—and I believe it is the first time such a trust has been given to any judicial body—selected the following names:

RICHARD M. BISHOP,
E. A. FERGUSON,
MILES GREENWOOD,
PHILIP HEIDELBACH,
WILLIAM HOOPER.

"We shall require a bond in the sum of \$100,000 from each Trustee, and four sureties on each bond. The City Solicitor will prepare the bonds and present them to the Court properly executed, with the sureties, and we shall then approve them, if we are satisfied they are sufficient for the purpose.

"While we have been willing to receive suggestions from every proper source as to the fitness of any person who might be named for the position of Trustee, I trust we have not been swayed by any improper influences.

"If I may be permitted, as an individual and as the oldest member of the Court, I

would remark that I deem the contemplated work the most important that can be well conceived in relation to the future prosperity of the city; not only in a material point of view, but as connecting Cincinnati, representing the whole North as well as the East, with every portion of our common country. The Southern members of the Confederacy can be truly said to become a portion of us. Indeed, so closely connected shall we be that we may well anticipate in the future there will be a real, a vital, and, I trust, a permanent union of all the States. Such an event will render unnecessary for the time to come every coercive restriction, and will produce, by the interchange of feeling, a common interest and a common pride of country, the assurance that our institutions, however they may have heretofore been threatened, will continue through all time to be the pride and glory of our people."—*Com.*

Central Pacific Railroad.

As a contribution to history we give the following scraps from California papers. Many of the parties have passed away, others will soon follow and it is but just and proper that their names be duly recorded and honored:

PIONEER RAILROAD DIRECTORS.

The *Sacramento Bee* of the 7th, published the following as the early pioneers of railroad enterprises in California:

WHO THEY WERE.—According to the files of the Secretary of State's office, it appears that the following were the Directors of the Sacramento Valley Railroad when it was originally incorporated, August 16, 1852: C. I. Hutchinson, Wm. McNulty, J. L. L. F. Warren, J. B. Patch, Julius Wetzlar, E. J. Willis, John Bigler, Wm. H. Watson, J. C. Zabriskie, Lewis B. Harris, Thomas B. Robb, and J. M. Freeman. And when reorganized October 25, 1853, the Directors were: Wm. M. McNulty, C. I. Hutchinson, Julius Wetzlar, Wm. H. Watson, J. C. Zabriskie, Lewis B. Harris, C. L. Wilson, Jos. H. Nevett, W. Fern, L. W. Hooker, Addison Martin and Henry Winkle. These men were the railway pioneers of California. Let them have due credit.

The following continuation of the record is from the *Commercial Herald*, of San Francisco:

THE FIRST CALIFORNIA RAILROAD.—The necessity for such action was fully comprehended as early as 1852, when the Sacramento Valley Railroad Company was organized with a nominal capital of \$1,500,000. But, owing to the stringent provisions of the general railroad law, and other opposing causes, nothing further was done until the succeeding Legislature modified the law in several important particulars. The company was then reorganized and the preliminary surveys made. At that time the following well-known gentlemen were officers of the company: President, C. K. Garrison, Vice President, W. T. Sherman, Directors, E. Jones, E. W. Barr, C. A. McNulty, J. A. McDougall, W. J. Pardee, Richard Chenery, A. W. McKee, C. L. Wilson, all of San Francisco; H. E. Robinson and W. H. Watson, of Sacramento, and J. C. Fall, of Marysville. E. Jones was Treasurer, H. R. Payson, Secretary, T. D. Judah, Chief Engineer, and Robinson, Seymour & Co., Contractors.

In remarking on the above, Colonel Warren, the genial and clever editor of the *California Farmer*, says:

As we were personally interested in the first enterprise, and remember it well, we design at an early day to furnish some important items; for, at the organization of the first Board, the enterprise was esteemed a quixotic one by outsiders; yet the members of that first Board had some grit.

The meetings at all times were held at our Agricultural Hall, on J street. We remember our first trip with the other members from Sacramento to the Nine Mile House, above Marysville, which estate the Board purchased for the depot at about \$5,000. We have the photograph of it now; and acting as we did, Secretary and Treasurer for a season, we have among the relics of the past, the certificates, notes, etc., of subscribers, which, by reason of the calamitous fire which devastated Sacramento in the November following, were never called for; and that enterprise fell with the ruins of Sacramento.

By the records now made, we see death has called among many of our co-workers of that early day. Peace to their memories. We then, ere another year, left Sacramento with others, and the new Legislature called into being another company, the records of which are, we suppose, in their keeping.

One thing is certain. If the fire and flood of the eventful year of 1852, brought loss upon many of that hour, the railroad enterprise of that early day, though small in its beginning, has had a most glorious result for our State, for which, as one who labored some little, and sacrificed not a little, rejoice to know at this day.

Another Pacific Highway.

The *Keokuk Gate City* of June 18, announced the arrival of the following prominent railway men and capitalists in that city:

J. Edgar Thompson, of Philadelphia, President of the Pennsylvania Central Railroad; Charles L. Frost, New York, President Toledo, Peoria and Warsaw Railroad; Gov. Wm. Dennison, ex Post Master General; Judge H. J. Jewett, of Columbus, President Pittsburg, Columbus & Cincinnati Railroad; Edward Smith, of Philadelphia; W. H. Cragger, of Peoria, Vice President Toledo, Peoria & Warsaw Railroad; H. F. Clark, Peoria, General Supt of the same Road; Henry Hill and Col. E. P. Buell, of Warsaw, and Gustavus Ricker, of Cincinnati, Directors of the P. & W. Road; Judge H. H. Trimble, of Bloomfield, Iowa, President of the North Missouri Extension; J. B. Bennett and F. A. White, of Nebraska City; D. S. Gray, of Columbus; F. M. Drake, of Centerville, and J. B. Hussy, of Philadelphia.

In answer to a very general inquiry respecting the occasion of their presence, the *Gate City* in its next issue states that a conference was held, resulting in a definite arrangement between the Pennsylvania Central, the Chicago, Columbus & Indiana Central, the Pan Handle, and the Toledo, Peoria & Warsaw, by which this almost continental line becomes one for transportation purposes. But the arrangement did not stop there. The more important feature of it to the people of Southern Iowa and Northern Missouri, was the arrangement unanimously come to, to put the Road through to the Missouri river promptly. This will be done. The execu-

tion of it will be put immediately in the hands of Ben. Smith. Crossing the Mississippi on the Keokuk bridge, the road will cross the Des Moines about 4 miles from its mouth, near the mouth of Sugar creek; thence uniting with the Alexander road: it strikes the State Line at Upton, Van Buren county, and pursues the line of Gen. Drake's Southern Iowa route westward.

Chicago, Rock Island and Pacific Railway.

FACTS AND FIGURES FROM THE ANNUAL REPORT FOR 1868-9.

We have already published copious extracts from the report of the officers of the Chicago, Rock Island and Pacific Railroad, yet the following from the *Chicago Railway Review* of the 19th June is so much more complete an exhibit of the condition of this very important road that we give it to our readers.

The *Review* says:—We are indebted to President Tracy for advance sheets of the Annual Report of the President and Directors to the Stockholders,—containing, along with the very comprehensive Report of the President, and Superintendent, a number of tabular statements of permanent value, from which as well as from local records and documents, and the Reports of subordinates, his statistics are compiled.

FINANCIAL.

The following is the Balance Sheet of the Company, April 1, 1869:

Credit Balances.

Capital Stock Account.....	\$13,999,800 00
Fractional Shares convertible into Stock.....	200 00
Bonds Chicago and Rock Island R. R. Company.....	1,397,000 00
Income Bonds, do.....	29,000 00
Bonds Chicago, Rock Island and Pacific R. R. Co.....	7,375,000 00
Fractional Agreements convertible into Bonds.....	1,063 12
Due Railway Bridge Company	60,000 00
Sundry Balances.....	6,649 60
Chicago, Rock Island and Pacific R. R. Co. of Iowa	49,852 75
Profit, Balance of Income Account.....	1,597,244 02
	<hr/> \$24,515,809 49

Debit Balances.

Cost of Road and Equipment	\$22,444,242 50
Securities in hands of Treasurer and Trustee for Guaranteed Bonds.....	61,380 08
Stanton, Elliott and Wilson Committee.....	1,086 59
Bond Account, Special Resolution, June 7, 1867.....	18,061 86
Trustee Land Grant Division M. & M. R. R. Co.....	19,084 22
Cash, etc., in the hands of Assistant Treasurer.....	1,177,045 03
Bills receivable.....	289,870 00
Balance in hands of Cashier, Chicago.....	505,039 25
	<hr/> \$24,515,800 49

EARNINGS AND EXPENSES.

The gross receipts and expenditures of the Company for the year ending March 31, 1869, were as follows:

Receipts.

From Passengers.....	\$1,292,604 81
From Freight.....	3,575,915 56
From Mails.....	34,848 48
From Express.....	81,386 83
From rents, etc.....	70,315 27
From interest on loans, etc....	176,908 77

Total..... \$5,231,979 75

Expenditures.

Operating exp's.....	\$2,366,679 13
Legal expenses.....	6,621 14
Taxes on real estate, etc.....	118,153 35
U. S. Govern't tax.....	32,426 99
	2,523,880 64

Net earnings.....	\$2,708,099 14
R't P. & V. R. R.	125,000 00
Interest on B'ds	667,551 79
Dividends, in cluding tax...	1,469,968 50
	2,262,250 29

Surplus earnings.....	\$445,578 85
There has been expended on account of construction and equipment, the following:	
Land and Land damages.....	\$14,666 62
Equipment.....	510,813 26
Engineering and contingent construction.....	341,377 78
Grading.....	1,551,997 39
Superstructure and bridging..	2,030,471 77
Fencing.....	25,883 43
Station Buildings, etc.....	69,089 02
New shops, Chicago, including machinery and tools.....	321,211 86
Construction repairs.....	327,297 90
	\$5,192,809 03

EXTENSION TO THE MISSOURI RIVER.

In the last Annual Report, you were informed that contracts had been made for the completion of your line of road to the Missouri river, there to connect with the Union Pacific Railroad; that the work would be hastened to completion as rapidly as was consistent with proper economy, and a belief expressed that the line would be open during the year 1869.

At that time this Company was laboring under great disadvantage, owing to the action of certain interested parties in Wall street, who had forced the Company into litigation, not only in New York, but in Illinois. It will be remembered that in September, 1867, by a unanimous vote of the Executive Committee, the President and Mr. David Dows were appointed a Committee to sell forty-nine thousand shares of the capital stock to raise money to complete the road to the Missouri river; that in pursuance of that appointment, they proceeded to and did sell the amount authorized, at what was believed to be a very satisfactory price, and very much better for the Company than to issue and sell the additional four and a half millions of bonds, which were authorized by the terms of the mortgage. Immediately upon the fact being public that such sale had taken place, that the Company had provided money to complete the road, in accordance with the expressed wish of the stockholders, as shown by their assent to the articles of consolidation, that the scheme of the parties interested to prevent the construction of the road west of Des Moines was likely to fail, legal proceedings were instituted in the New York courts against the Company, and several of the individual directors.

Injunctions were allowed and enforced, the effect of which was to prevent the Company from using its funds for the purpose of building the road, as contemplated, unless the Company would pay to certain parties the losses which they alleged they had made by reason of the sale of the 49,000 shares. New York courts were found who readily allowed such injunctions, and the directors were placed in an unpleasant situation. Desirous at all times to carry out the wishes and views of the stockholders, as expressed by them in the usual way, and feeling assured that the *bona fide* stockholders, who held the stock as an investment, expected and desired that the road should be completed to the Missouri river, it was determined that all proper and legal defenses to such proceedings should be interposed. Counsel were employed in New York, Illinois, and Iowa, and it should be said here that most faithfully did they severally perform the duties assigned them. In the meantime, the Legislature of Iowa being in session, it was determined to make an application to that body for the passage of a law which would enable the Company to go on and build the road, despite the New York courts, or disappointed parties. The directors are happy to be able to say to you that, notwithstanding the most violent opposition, most improper means resorted to, and most gross misrepresentations, both the Senate and the House of Representatives, by a unanimous vote, passed the bill desired.

Gov. Merrill, who had taken great interest in the matter on account of the benefits which would accrue to the State from the construction of the Road, approved the bill, and it became a law. This gave the company a starting point to defeat the scheme concocted against it, and enable it to go forward at once. Upon application, in proper manner, to the courts of the State of Illinois, the issue and sale of the forty-nine thousand shares, and the proceedings of the Company in connection therewith, were by decree duly affirmed and approved. The two parent States, one by its legislative, and the other by its judicial authority, having affirmed the action of the directors in the matter, the way was open to complete the road, if the funds *tied up* in New York should be made available. These facts were shown to the New York courts by the counsel of the Company in a proper form, and thereupon all injunctions were dissolved, and the Company was at last enabled to use its money for the purpose for which the stock was sold.

The work has been steadily prosecuted as rapidly as was consistent with due regard to economy in its cost. The new road has been built in the best and most substantial manner, consistent with the materials to be obtained. There is yet much to do in way of ballasting, buildings, shops, fencing, etc., to fully complete it.

The unprovoked and unwarranted litigation has cost the Company a large sum of money, not only in the amount actually paid out for legal expenses, etc., but in the delay in the construction, and other matters incident thereto; and while it would have been much more pleasant to the directors to have had the money to improve and equip the property, they believed it to be their duty to carry out the views of the stockholders as expressed, by the extension and completion of the road.

IMPROVEMENTS

Steel rails.—In October, 1866, several tons of the "John Brown Atlas toughened Steel Rails" were placed in the track in Clark street,

where they would have the most severe test, all the trains of the C., R. I. & P. R. R. and M. S. & N. I. R. R. roads passing over the same on single track, and where there is almost constant passing of heavy switching engines and cars. None of these rails have shown any perceptible wear after three and a half years' service. The Chief Engineer estimates that the best quality of iron rails would not have lasted to exceed one year in the same situation. In November, 1867, one mile of these rails was laid in the main line between Englewood and Blue Island, none of which show any signs of failure. During the past fall and winter, thirteen miles of these rails were laid in the main line from Blue Island west with like result, making fourteen miles of track laid with steel rails now in use, and contracts have been made for the delivery of five hundred tons additional, which will be laid the coming summer. The Chief Engineer is of the opinion, after careful considerations based on the foregoing results, that it is true economy to adopt continued use of these rails.

New Bridge over the Mississippi.—A contract has been entered into with the U. S. Government for a bridge between Rock Island and Davenport, with a view of changing the location across the island of Rock Island, to accommodate the government works. The proportion which the Company is to pay is estimated at about \$60,000, of which \$300,000 will be required this year.

New Buildings and Track in Chicago.—The sum of \$770,120 will be required during the present year for freight houses and track facilities to provide for the business of the Company in the City of Chicago.

PERMANENT WAY.

The leading items of expenditure for renewal of track have been:

170,663 Ties.....	\$89,598 07
1,271 tons of new iron rails.....	108,035 00
1,705 tons rails re-rolled.....	64,025 00
1,100 tons new steel rails.....	171,654 96
262,450 lbs of spike.....	13,740 38
5,500 lbs of screw spike.....	502 19
246,200 lbs of fish bars.....	10,228 22
75,400 lbs of bolts for fish joints..	5,362 80
2,000 Pratt's Patent fish joints..	4,234 48
Track re-laid during the year, new iron.....	14.55 miles
Track re-laid during the year, re-rolled iron.....	18 miles
Track re-laid during the year, steel.....	13 miles

Number of rails repaired at Company's shops was 21,457, costing \$16,001.76, as average for each rail repaired of 78.77 cents. The second track between De Pue and Bureau stations, four miles, and between Seneca and Marseilles, about the same distance, has been nearly completed. It is proposed to build ten or fifteen miles additional double track during the present year.

ROLLING STOCK.

The Company have 107 engines—83 coal burners, and 24 wood burners, (13 having been changed to coal burners.) 12 of which were purchased during the year. The total number of cars is 2,596—of which 49 are coaches; 23 baggage, mail and express; 287 stock, 1,531 box, and 659 flat.

The extension to the Missouri has added about 140 miles of new track, requiring an addition to the equipment account, and to meet this want eleven new engines have been contracted for, to be delivered 1st August next, and 100 box cars to be delivered 1st July. In addition to the above, there will be required 100 platform cars, 200 box cars, and

50 stock cars, besides the addition of passenger, baggage, and sleeping cars, which are being built at the Company's shops. The sum of \$81,000 will be required to meet this outlay.

The total number of loaded cars was 105,539 51,662 going eastward, and 53,877 westward.

The average tonnage per car was 7 1230 2000.

The number of passengers transported was 627,595½. Of these, 306,391½ went east; 321,204 west; 621,991 were first class, and 15,605½ second class; 59,798 were through, and 567,797½ way.

The total receipts, month by month, in the order of magnitude were: March, \$645,789.14; Oct., \$591,209.15; Aug., \$568,380.20; Sept., \$558,386.77; Dec., \$433,431.65; Nov., \$424,589.49; June, \$378,436.29; Jan., \$351,767.09; July, \$341,885.05; Feb., \$319,441.11; May, \$316,708.62; April (1868), \$301,952.19.

Among leading items of freight, were—merchandise, 150,842,840 lbs.; dressed bogs, 7,946,000 lbs.; wheat, 2,552,329 bushels; corn, 4,016,708 bu.; oats, 1,811,707 bu.; potatoes, 92,204 bu.; salt, 106,922 brls.; flour, 420,802 brls.; cattle, 41,709; hogs, 187,524; sheep, 25,352; railroad ties, 272,675; lumber, 90,768,000 feet; shingles, 76,752 M.; coal, 73,341 tons; iron, 23,862 tons.

EMPLOYEES

The average number of men employed per month was 3,297; the average amount paid them per month being \$148,319.88. The employments of these—taking the month of August for example—were: General office, 18; machinery department, 656; car department, 226; supply office, 8; station service, 428; train service, 199; roadway and track, 1,186; new construction, 813; miscellaneous, 189; total, 3,723; total pay, \$162,134.06.

OPERATING DISBURSEMENTS.

Among the chief items were: salaries, \$164,097; labor, handling freight, and watchmen, \$215,883; conductors baggage and brakemen, \$106,506; enginemen and firemen, \$187,898; fuel, \$247,617; oil, tallow and waste, \$33,900; damages for injury to persons, \$20,659; damages for cattle killed and injured, \$21,492; repairs of engines and tenders, \$201,656; repairs of cars, \$234,779; tools and machinery in shops, \$18,202; repairs on roadway and track, \$402,634; iron for track, \$255,362.

NEW YORK AND ALBANY RAILROAD.—At a recent meeting of the Board of Directors, it was determined to prosecute this enterprise with the necessary zeal and energy to effect its speedy accomplishment. The President was directed to secure the services of John H. McFarland, Esqr., of Salem, Washington County, who has had large experience and success in enterprises of this character. This the President has done, and Mr. McFarland will, in a few days, commence the work of increasing the subscription to the stock of the road.

A very perfect survey of the road has already been made under the supervision of Mr. Wentz, one of the most accomplished civil engineers in the country. If the citizens of Albany and those residing along the line of the road, will at once and without delay respond to the call for subscriptions; fifty-two miles of the road, from this city to Kingston, can be put under contract in the month of September next; and when completed, there will be a continuous line of railway, on the west side of the river, from Albany to Jersey City.—*Albany Journal.*

Alabama and Chattanooga Railroad.

THE ALABAMA AND CHATTANOOGA RAILROAD COMPANY was organized in October, 1868, by the consolidation of the Northeast and Southwest Alabama Railroad Company with the Wills Valley Railroad Company.

These two latter companies were chartered and organized before the war, and commenced the construction of their respective roads, which were together to form a continuous line of railroad between Chattanooga, in the State of Tennessee, and Meridian, in the State of Mississippi, a distance of 300 miles, and supplying a wanting link in the almost air line route between New York and New Orleans.

At the time of the consolidation and the date of the execution of the deed of trust under which its First Mortgage Bonds are issued \$3,270,000, at ante-war prices, or \$3,270,000 in gold, had been expended upon the two roads. Forty three miles were completed and equipped and 156 miles graded, and the road bed nearly ready for the superstructure.

The Alabama and Chattanooga Railroad Company also succeeds to the valuable grant of land conveyed to the two former companies from the United States Government, amounting to ten sections of land per mile for all the road lying within the State of Alabama. These lands are located on each side of the road and within six miles from it, amounting to 1,900,800 acres, and comprise tracks of the most valuable iron and coal and cotton lands upon the continent.

The company is not only free from all debt, but with abundant resources in hand to meet any future contingency; the whole enterprise being in the hands of an association of Boston capitalists, of undoubted responsibility, with ample means to push the work to speediest completion. Over three thousand men are now employed upon the road, and the number is soon to be increased to five thousand. Seventy miles are already completed; the whole is under contract and will be finished, so as to make through connection, in about twelve months.

When the entire line is constructed, it will shorten the distance between New York and New Orleans more than two hundred miles, and form the shortest route possible to construct between the two cities. Of the value of the road when completed there is and can be but one opinion. It has long been acknowledged to be one of the most important lines and connections in the entire South. It can have in fact no superior, if indeed equal, south of the Potomac. This statement is not at random, but most thoroughly considered. Aside from its almost necessary monopoly of through travel and freights between New York and New Orleans, the road develops inexhaustible coal fields, of a quality superior to any yet discovered south of the Ohio, and from which all the markets of the Gulf must necessarily be supplied; it opens illimitable deposits of the richest hematite iron ore yet discovered on the continent, in a country with every possible manufacturing facility; and in its southern section it traverses the most productive cotton districts of Alabama and Mississippi.—*Am. R. R. Journal.*

A dispatch dated Memphis, Tenn., June 23d, says: A. L. Mitchell, President of the Mississippi River Railroad, advertises for grading the same from Memphis to Covington, Ky. Indications are that the work will be pushed forward at an early day.—*Am. R. R. Jour.*

A Part of the Great Northwest.

There is a portion of country which promises in a few years to yield to none other, in population, wealth and production. It is a region, however, now comparatively unknown, of vast extent, of healthful climate and of large resources. It has for its streams the upper waters of the Mississippi, those of the Red River of the North, of the Assiniboine and of the Saskatchewan. It touches the shores of Lake Winnipeg; extends far westward along the borders of the United States and of the New Dominion to and beyond the Rocky Mountains. It has Lake Superior for its Eastern limit. The State of Minnesota, part of Wisconsin, part of Dacotah and a broad section of the New Dominion lie within this region. At first thought one would say that this section was far to the northward, but a glance at the map shows that while St. Paul is in the latitude of Venice, the Northern shore of Lake Superior is in the latitude of Paris. 200 miles further south than London and 700 miles further south than St. Petersburg. The summer isothermal line of 70 degrees, which passes through the wheat-growing regions of Russia and through Southern France, strikes this continent on Long Island, bends down into Pennsylvania, skirts the northern limits of Ohio and Indiana, passes from the foot of Lake Michigan to the Mississippi just north of St. Paul, and then sweeps up to latitude 52 three and a half degrees north of Paris. Some of our school misconceptions of geography are corrected by the practical knowledge we acquire in this day of enterprise and action. It is under and around this isothermal line that the richest wheat-growing regions of the United States lie, and it is near this line that the remarkable development of the last few years has been made. For instance, in 1857 Minnesota did not raise breadstuffs sufficient for her own consumption. Ten years after her export of wheat was 10,000,000 of bushels and her production was 14,000,000 bushels. In 1854 she had only 15,000 acres of land under cultivation. Ten years later it was over 1,000,000. In 1860 her population was 172,000. In 1865 it was 250,000. It is estimated now at 450,000. In 1860, Hon. Wm. H. Seward, standing in St. Paul, the center of this great "continental wheat garden," speaking of the broad belt extending from Lake Superior to the Pacific, remarked, "Here is the place the central place, where the agriculture of the richest regions of North America must pour out its tributes to the whole world."

The transportation facilities of this region are mostly as yet only "projected." There is first of all, however, the Mississippi river, which offers such cheap carriage to the sea. This route may, we think, be regarded as "finished." The agricultural wealth of Minnesota was one of the chief inducements for St. Louis to engage in the present system of grain carriage to New Orleans. Its effort was to secure a share of that traffic which by several lines of railroad passed across the States of Wisconsin and Illinois, and so sought an Eastern market, by way of the Lakes. But Minnesota has designs of its own, and hopes to do its own business. It has under way a railroad from St. Paul to Du Luth, the head of Lake Superior. This road will be 150 miles in length. A portion of it is done and the rest will be completed during the present year, placing Minnesota several hundred miles nearer tide water than it now is, for the western end of Lake Superior is 240 miles west of

Chicago, and the distance of the center of Minnesota production is much nearer Lake Superior than Lake Michigan. The navigation of the two lakes is practically limited to the same season, for one depends upon the departure of the ice from the St. Marie, and the other upon the freedom of the Straits of Mackinaw. To New York the distance from the head of Lake Superior is just about the same as from the head of Lake Michigan. The Northern Pacific Railroad is another improvement, upon which work is beginning. But this is too indefinite yet to require further remark. Railroads, east and west lines, are started in the first, second, fourth, and fifth tiers of counties in Minnesota, counting from the lower line of the State. St. Paul is a railroad center, and from it diverge nine or ten roads, all of which are designed to feed the new road to Lake Superior. There is a road started to Pembina, of which 81 miles are completed. Another is from St. Paul to the head of Red River navigation, of which 60 miles are done and 100 more are contracted for by the first snow fall. Another runs toward Sioux City, and ninety miles are done. At Sioux City it will meet a branch of the Union Pacific road and contend for the traffic of that route. Another runs down the river to Hastings, and has Chicago for its objective; of this 20 miles are done. Another road toward Chicago has 60 miles completed. We omit mention of some minor routes and projections.

The question naturally arises how is the labor procured for all these enterprises? The regular emigrants to Minnesota and other Western States are farmers, agricultural laborers and artisans. They are not "navies." So laborers for the railroads are sought abroad. They bring them over by the ship load, and send them to work on the railroads. They settle on the line, and so, when the road is done, it has a population to support it. The Minnesota State Agent has been to Sweden for his emigrants, before whom he laid the wonders of climate, production, free homesteads, &c. He brought 900 over with him a few days since, and he promises that 75,000 Scandinavians will come over during the present year. So the State grows and develops. So civilization makes its powerful conquests of new regions. So the material prosperity of the whole country is increased and the National life derives fresh strength. The remote is brought near, the savage is tamed, and the kindly fruits of the earth are produced in greater and greater abundance. This little sketch of what one little State is doing is but the repetition of what others have already done, and the prelude to even greater enterprises.—*Financial Chronicle*.

NEW MUSIC.—John Church & Co. has sent us "The Soft Dew is Sleeping," by George Barker, a very pretty air and sweet song; also, "Tell me what's a Married Man to Do," and "The Comical Ghosts," two humorous songs by Sol Smith Russell. To appreciate them properly they should be sung by Russell, but any one who can throw character into their singing may render them with good effect. "She was just about the age," a burlesque extravaganza, by S. Frank. Church has all the new music published, and the largest assortment of musical instruments in the West.

Coal-Cutting Machines in Yorkshire.

The West Yorkshire Iron and Coal Company are the lessees of the West Ardsley Colliery; two coal cutters of Messrs. Firth, Donisthorpe & Co. are in operation now in the Middleton seam, and I was favored by Mr. Firth with permission to inspect the working of these machines. There are three downcast pits for drawing coal from three different seams—viz., one upcast and one downcast, 160 yards deep, to the Middleton seam; one downcast, 130 yards deep, to the Little seam; one downcast, 60 yards deep to the Cannel seam. The three winding engines for these pits are of the single cylinder horizontal construction, using round wire double ropes, and raising two tubes in each cage on one deck. There is also a one-cylindrical horizontal pumping-engine, raising water by two lifts from the Middleton seam to an adit, which is about 60 yards below the surface or top of pit. The section of the Middleton seam is as under:

GREY METAL ROOF.

1. Top coal.....2f.	1in.....	Best house or steam coal.
2. Dirt.....0	4	Thrown to gob.
3. Soft coal.....0	5	Hole in this.
4. Dirt.....0	3	Thrown to gob.
5. Bottom coal.....1	0	Sent to bank by itself.
6. Dirt.....0	1	Separate from No. 1.
7. Whetstone coal..0	8	Not taken up.

This seam is worked at present in three districts, viz:

West from pit, ab't 1,200 yds., having 10 sets or stalls in operation.
East from pit, ab't 800 yds., having 7 sets or stalls in operation.
South from pit, ab't 800 yds., having 10 sets or stalls in operation.

The dip of the strata is to the south, about $\frac{1}{2}$ in per yard. In these 27 sets or stalls there are two coal cutters in operation, working each 9 hours in the day shift. One of them is worked a few hours in the night shift. The quantity worked by the coal cutters from these places last week was 1,040 tons of coal; but this is not an average result of their performance. Some of the days were short ones. An average of the work got by the working of one machine is found to be 75 yards in 9 hours, holing 3 ft. 6 in., which includes all loss of time in removing the machines from one district and stall to another. This I estimate, to produce 80 tons, at 6 days=480 tons for one machine in 9 hour shifts. During my visit one machine holed 7 yards 3 ft. 6 in. deep in 26 minutes in two cuts, which is at the rate of 16 yards per hour; 20 yards per hour have been performed under favorable circumstances, but these instances do not include the stoppage incidental to moving the machine from place to place, and in turning it to hold the corner left at the beginning. The coal in this pit is got from the stalls by machines; straight work is got by hand. Coal cutting machines have been worked at this colliery about eight years. Their performance may be pronounced to be highly successful, especially those worked during the last eighteen months. These have been so far improved, by strengthening the working parts, as to prevent any trouble or delays from breakage. They are under perfect control, and a short practice would enable any person of ordinary intelligence to manage one of them. The stroke can be regulated by the slide-valve and handle as readily as a miner wields his pick. Each machine has a cylinder, 6 in. diameter, 12 in. stroke, fitted with traversing gear, screw for raising or lowering the pick, and slide-valve tappets. They perform 80 strokes per minute in the first cutting, 2 ft. 3 in. deep, and 70 strokes per minute in the second cutting 3 ft.

6 in. deep. The pressure of air at the blowing engine is 50 lbs. per square inch. The blowing and steam cylinders of this engine are horizontal, and are placed near the top of the pit. The pipes conveying compressed air down the pit are 4 in. diameter; at the bottom they are divided into three districts, and are 2 in. diameter along the wagon roads, made of ordinary gas-piping; the branches into the stalls are $1\frac{1}{4}$ in. diameter.

The labor expended by colliers in holing is, in some cases, one-half of the total labor expended in getting and filling coal underground—so that any improvement tending to a saving of cost in this operation, and to relieve the miner of this most laborious performance, is deserving of consideration. It seems to me to want some favorable opportunity to bring Messrs. Firth & Co.'s machines into more general use, combined with the introduction of the long wall system of working coal. A modification of their machine has the cylinder placed in the opposite direction; the headstocks are placed at the side of the machine, whereby any turning of it is avoided, which will be advantageous, especially in places of small width. 1 man and 2 boys attend the working of each machine; 2 men are employed clearing the dirt from the coal after the holing has been finished; 1 man is employed in blowing down; 9 men filling; 2 men timbering—15 men and boys altogether, or approximately about 62s per shift=9 $\frac{1}{4}$ d. per ton on 80 tons. The machines are raised up on a framework of iron to hole at the proper height in the seam. About 4 feet width is required to work in.—*London Mining Journal May 1*.

The State Treasurer of South Carolina gives notice that the interest on the bonds of the State of South Carolina, since July 1, 1867—up to which date the accrued interest was funded—will be paid on and after July 1, at the banking house of H. H. Kimpton, in New York, and at the State Treasury office in Columbia. The interest on the registered stock of the State, accrued since July 1, 1867, will be paid at the same time, but in Columbia only.—*Am. R. R. Jour.*

An improved metal for the manufacture of rails has been proposed, consisting of iron with an admixture of chrome ore. It has long been known that an alloy of about 40 per cent of iron and 60 per cent of chromium scratches glass almost as deep as the diamond; and Fremy has stated that an alloy of iron and chromium may be formed by heating in a blast furnace oxide of chromium and metallic iron; it resembles cast iron, and scratches the hardest bodies, even hardened steel.—*Inventor*.

Condition of the Currency.

It is not our purpose to hazard any theory in regard to the currency; we merely design to present the facts, and leave our readers to frame their own theories. None but those familiar with the difficult nature of statistical inquiry can appreciate the great amount of labor compressed into the following table; although it will be perhaps enough to state that the information it contains was derived from a careful perusal of all the Treasury documents, Congressional Committee reports, and a large portion of all the statistical works published in the United States since 1830.

Even as it is, no complete authentic data for the years 1831, 1832 and 1834 have been obtained.

STATISTICS OF THE CURRENCY OF THE UNITED STATES, INCLUDING BANK NOTES, GREENBACKS AND SPECIE.

Year.	Currency.	Currency per capital.
1830.....	\$ 93,000,000	\$ 7.20
1833.....	119,700,000	8.50
1835.....	183,000,000	12.40
1836.....	205,000,000	13.30
1837*.....	222,000,000	14.00
1838.....	203,000,000	12.50
1839.....	222,000,000	13.40
1840.....	190,000,000	11.20
1841.....	187,000,000	10.70
1842.....	143,700,000	8.00
1843.....	128,500,000	6.90
1844.....	175,000,000	9.10
1845.....	186,000,000	9.40
1846.....	202,500,000	9.90
1847.....	225,500,000	10.70
1848.....	240,000,000	11.10
1849.....	234,700,000	10.50
1850.....	285,000,000	12.20
1851.....	341,000,000	14.20
1852.....	360,000,000	14.50
1853.....	380,000,000	14.80
1854.....	418,600,000	15.80
1855.....	444,600,000	16.40
1856.....	446,200,000	16.10
1857*.....	474,300,000	16.70
1858.....	406,600,000	14.00
1859.....	458,800,000	15.40
1860.....	457,000,000	14.50
1861*.....	443,400,000	13.70
1862.....	482,500,000	21.00
1863.....	672,000,000	27.40
1864†.....	743,000,000	28.50
1865†.....	754,000,000	24.90
1866.....	850,000,000	23.60
1867.....	844,000,000	22.80
1868.....	839,000,000	22.00
1869.....	832,000,000	21.20

* Suspension. † Highest inflation during suspension. ‡ Spring panic.

Glancing along this table it will be observed that the currency was an increasing one from 1830 to the time of the great suspension in 1837; that then it became a decreasing one until 1843, when it again became an increasing one until 1857, again a decreasing one until 1861, again an increasing one until 1864, and that it is now a decreasing one. These alternate movements of the currency may, with great propriety, be termed *crecendo* and *diminuendo* movements. The *crecendo* periods are all noted as eras of great commercial activity; the *diminuendo* ones as eras of commercial depression; thus—

Period.	Currency per capital.	Movement.	Characteristics.
1830—'37..	\$ 7.20 to \$14.00	Creendo.	Great activity.
1837—'43..	14.00 to 6.90	Diminuendo.	Depression.
1843—'57..	6.90 to 1.71	Creendo.	Great activity.
1857—'61..	16.70 to 13.70	Diminuendo.	Depression.
1861—'64..	13.70 to 25.50	Creendo.	Great activity.
1864—'69..	25.50 to 21.20	Diminuendo.	Shrinkage.

Such are the facts. Will our readers favor us with their views as to the lesson, if any, they teach?—*Economist*.

T. F. Randolph,
MANUFACTURER OF
MATHEMATICAL INSTRUMENTS,
SURVEYOR'S COMPASSES, TRANSITS, LEVELS,
DRAFTING INSTRUMENTS, &c.,

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WRIGHTSON & CO.,

Railroad Printers

167 Walnut Street,

CINCINNATI, O.

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SPECIALTY,

We would respectfully call the attention of Superintendents, General Ticket and Freight Agents to the class of work we are now producing.

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STRETCHERS,

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CONSECUTIVELY NUMBERED

COUPON AND LOCAL TICKETS,

Bills Lading,

Way Bills,

Blank Books,

AND ALL WORK INCIDENT TO RAILROAD OFFICES,

Got out in first-class style, and at as low rates as any establishment in the country.

SUSPENSION

COUPON TICKET CASE.

BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF FORMS.	PRICES.	SIZE NO. OF FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms, and also with working plans, if desired.

BACON & EVERINGHAM,
Milwaukee, Wis

All orders addressed to us will receive prompt attention.

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167 Walnut St., Cincinnati,

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MERCHANTS,

INSURANCE COMPANIES,

MANUFACTURERS,

EXPRESS COMPANIES,

PUBLIC OFFICES, Etc., Etc.

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Late Master Car Builder C.H.&D. & D.&M.

MERCER, MORE & CO.,

BUILDERS OF EVERY DESCRIPTION OF

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Cambridge, Ind.

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MATH, Pres't, C.&I.C. Railway, Columbus, O.
M. RIDENOUR, Pres't, C.&I.J.R.R. College Cor., Ind.
J. M. LUNT, Sup't, C.&I.C.R.R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C.H.&D.R.R., Cincinnati.
J. H. WELLER, Ass't Sup't, D.&M.E.R., Dayton, O.
D. McLAREN, Gen'l Sup't, A.&G.W.R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C.&I.J.R.R., Hamilton
C. W. SMITH, Gen. Ft. Agt. C. & I.C. R.R., Indianapolis
Aug. 2, 1869.

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*Most Simple, Effective and Durable Device for
Raising Water by steam, yet discovered.*

It is an independent LIFT AND FORCE PUMP, without piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP.

WITH THE

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A locomotive can raise water, with its own steam, to fill its tender in the same time as from an ordinary tank; thus dispensing with tanks, pumping machinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops, Shops, Elevators, &c.,

AND BY FAR,

THE BEST BILGE PUMP,

for Steam Vessels, in use

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MISSISSIPPI RIVER RAILROAD.

To Contractors.

Sealed proposals will be received by the undersigned, at the office of the Company, No. 450 Main Street, Memphis, Tennessee, until 12 o'clock M., on the

20th day of July, 1869,

For the clearing, graduation, masonry, bridging and crossings necessary to complete the above road from Memphis to Covington, about thirty-six miles, ready for the iron rails. A large portion of the work is heavy and well worthy the attention of contractors, as it is the intention of the Board to place the entire road to Cairo under contract as soon as the surveys are completed.

Proposals may be made for cash, or for county bonds, or for part cash, county bonds and stock.

Plans, profiles and specifications are now ready for inspection at the Company's office, by application to Thos. H. Millington, Chief Engineer, from whom all necessary information may be obtained.

Proposals will be received for the whole work, or in divisions. The right is reserved to reject any and all bids not deemed satisfactory.

[Signed]

24-3-93.

A. S. MITCHELL,
President Mississippi River R. R.

THROUGH —FROM— CINCINNATI TO NEW YORK WITHOUT CHANGE OF COACHES!

—VIA—

Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W. Railway, on Saturday Morning, by the 6:00 a.m. Lightning Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next day, Sunday

2 Through Lightning Express Trains for New York, Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6.15am.....	7.10pm
" Dayton.....	8.35 ".....	9.30 "
Arrive West Salem.....	1.50pm.....	4.53am
" Leavittsburg.....	4.55 ".....	7.35 "
" Meadville.....	7.35 ".....	11.10 "
" Susquehanna.....	7.48am.....	11.29pm
" Paterson.....	2.25pm.....	6.03am
" New York.....	3.15 ".....	7.00 "
" Boston.....	5.45am.....	4.45pm

Sleeping Coaches on Night Trains the entire distance between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday night instead of Saturday night. All other Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS

At Salamanca with Erie Railway.
At Mansfield with Pitts., Ft. Wayne and Chicago Railroad.

THIS IS THE ONLY ROUTE TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely new, of the most modern, substantial, and approved description, unequalled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all Trains.

Ample time is allowed, at all hours, for meals.

No effort will be spared by the Company to render a trip over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!

FOR THROUGH TICKETS AND BAGGAGE CHECKS,

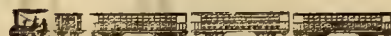
Apply in Cincinnati at New Depot of Cincinnati, Hamilton and Dayton Railway; or at northeast corner of Broadway and Front streets, and at No. 80 Fourth street, nearly opposite Post Office. Also at any of the principal Railroad and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. BUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1866, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a.m. and 18:00 p.m. On Sundays, one Express Train at 7:00 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change; cars to Chicago or Cincinnati, and but two to St. Louis. Passenger: front Ye East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m., Pittsburg 12 night.

9:00 a.m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 8:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN, from the West, leaving Pittsburg at 4:30 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:40 a.m.; Allentown at 6:00 a.m.; Easton at 7:00 a.m. Through cars from Pittsburg to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pittsburg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:52 a.m.; Allentown at 12:02 p.m.; Easton at 1:10 p.m. Through cars from Pittsburg to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing Reading at 10:40 a.m.; Allentown 12:30 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

2:10 p.m.—FAST MAIL, from the West, leaving Pittsburg at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 0:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7.00 A. M.	9.10 A. M.
Springfield & St. Joseph Ex.....	12.00 P. M.	4.30 P. M.
St. Louis & Chicago Ex.....	4.55 P. M.	12.15 A. M.

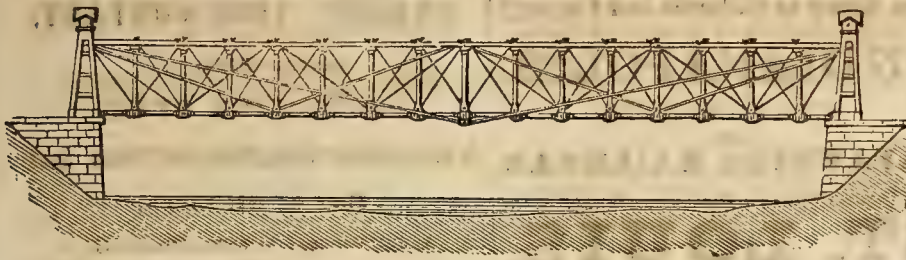
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5.15 P. M.	5.05 A. M.
Harrison Accommodation.....	10.10 A. M.	2.25 P. M.

Through Ticket can be obtained at the Burnet House, Spencer House and Gibson House offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD, General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

For plans and particulars, apply to

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ENGINEERS,

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Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pairs of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail and work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunities of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire (to fit centers without bolting), Composition Castings for Bearings, every description of Copper, Sheet Iron and Boiler Work; and every article pertaining to the repair or renewal of locomotive Engines.

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AMERICAN BANK NOTE COMPANY

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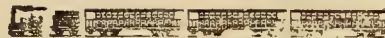
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Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

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GEORGE T. JONES
S. E. Cor Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburg without Change.

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For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,
No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent
Pittsburg Pa.

PITTSBURG & CONNELLSVILLE R. R.

ENGINEER'S OFFICE, PITTS. & CONNELLSVILLE R. R.,
PITTSBURG, June 3, 1869.

The graduation, masonry and ballast, upon the following Sections of the Pittsburg & Connelleville Railroad, have been allotted, by the President and Directors of the Company, to the parties named below in connection with the same, viz:

To Ralph Jones & Co.—Sections 67, 68, 69, 70, 71, 72, 73, 74, 93, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105.
To John Donaghy & Brothers—Sections 107, 143, 144.
To Meyer, Brodhead & Co.—Sections 113, 114, 120, 121, 122, 123, 124, 125, 126, 127.
To Devere & Clark—Sections 118, 119.
To Patrick Keating—Section 108.
To John Wilhelm—Section 109.
To Edward Kerns & Brother—Sections 131, 132, 137.
To Bracken & Fitzpatrick—Section 133.
To B. B. Gonder—Sections 134, 135.
To Alexander B. Buchanan—Section 136.
To P. K. Hovley—Section 138.
To George W. Harrison—Section 139.
To Nathan Stiple—Sections 141, 142.
To Manfull & Ross—Sections 77, 78, 79.

The remaining 35 sections, between Connelleville and Cumberland, having been contracted for previously, the whole line of 86 miles, between those points is now under contract to responsible parties, and there will be ample and steady employment for labor thereon during this year and the next.
BENJ. H. LATIMER,
24-6-9-21. Chief Engineer.

MANUFACTURERS, IMPORTERS & DEALERS

—IN—

Railroad, Car and Machine Shop

SUPPLIES,

—AND—

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

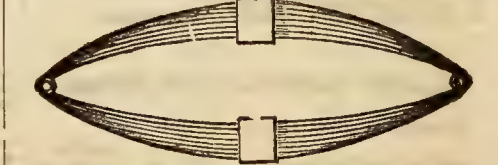
121 West Front Street, Cincinnati.
330 Main Street, Memphis, Tenn.

PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia employing only the most experienced workmen and best material he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.

Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,
MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

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Locomotive Engines.

ORDERS executed promptly by tent for the celebrated Wheels, either single or double plate with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner; the shortest notice, and on the most reasonable

GRAND SCENERY!**QUICKEST ROUTE****53 Miles in Distance Saved.****Baltimore & Ohio R.R.**

-TO-

BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,

WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**

From Cincinnati to **Baltimore** and but ONE CHANGE to
 or Columbus to **Philadelphia and New York.**

Ask for **TICKETS** and **BAGGAGE CHECKS** via **Baltimore & Ohio R.R.**

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
G. B. GIBSON, General Western Passenger Agent.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Rich- mond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....	6 45 A. M.	
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run **SEVEN MINUTES FASTER** than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Bureau House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
 Omnibuses call for passengers.

JANUARY 5th, 1868.**Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI.	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR.	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINNENNE.	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN.	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL.	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS.	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O'H.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine Street, Corner Front and Broadway; and at Depot, Foot Mill Street.

C. E. VOLLET Gen. Passenger Agent
J. W. UNLOQUE, General Superintendent

Best Route to St. Louis and Chicago

INDIANAPOLIS,
CINCINNATI
 -AND-
LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,
CAIRO,
CHICAGO,

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha
 And all Rail and River Towns and Cities in the West, North-west and South-west.

5 THROUGH TRAINS DAILY,
 (Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express....	7.00 am	10 50 pm
Indianapolis and Cairo Express.....	6.30 am	2 30 pm
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express, Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago.
 Elegant Sleeping Cars on all night trains.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.10 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.50 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Third and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
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AND

CORRUGATED IRON ROOFS

ARCHED AND FLAT.



CORRUGATED SHEETS, OF ALL SIZES, CON-
 stantly on hand, painted, and ready for shipment,
 with instructions for applying them.

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 Boston, Mass.

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Wilmington, Delaware

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LOCOMOTIVE WORKS,

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COAL OR WOOD BURNING
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Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

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ESTABLISHED 1821.

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Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas, Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1½ to 4 inches in diameter, and branches, for same, &c.,
Gas Works Castings, etc., etc.

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TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY
 4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. (Express); 2.30 P. M.; 11.30 P. M. night.
 On Sundays, 4.30 A. M.; 11.30 P. M.
 Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)
SUNDAY TRAINS—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave all time for Philadelphia at 8.25 P. M. Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD, }
T. WRIGHTSON. } Editors

CINCINNATI:
THURSDAY, JULY 8, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.
One square, single insertion..... \$ 1.00
" " per month..... 3.00
" " six months..... 12.00
" " per annum..... 20.00
" column, single insertion..... 5.00
" " per month..... 10.00
" " six months..... 40.00
" " per annum..... 80.00
" page, single insertion..... 15.00
" " per month..... 25.00
" " six months..... 110.00
" " per annum..... 200.00
Cards not exceeding four lines, \$5.00 per annum.
WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

ERIE, AND ATLANTIC & GREAT WESTERN.
Morning Express leaves 6:00 A. M.; arrives in New York 3:15 P. M., next day.
Fast Express leaves 9:15 P. M.; arrives in New York 7:00 A. M. second morning.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	3:15 P. M.
East Line.....	4:00 P. M.	10:00 P. M.
Lightning Express.....	10:00 P. M.	6:00 P. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillboro Accommodation.....	2:40 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:55 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.) ..	6:00 A. M.	5:25 P. M.
do do ..	9:15 P. M.	6:00 A. M.
Toledo, Detroit & Canada.....	6:15 A. M.	10:25 P. M.
do do ..	7:00 P. M.	7:25 A. M.
Lima, Ft. Wayne & Chicago.....	6:15 A. M.	10:25 P. M.
do do ..	2:30 P. M.	6:40 P. M.
do do ..	7:00 P. M.	7:25 A. M.
Sandusky, Cleveland & Buffalo... ..	6:15 A. M.	6:40 P. M.
do do ..	7:00 P. M.	10:20 A. M.
Coonersville & Indianapolis.....	6:15 A. M.	10:25 P. M.
do do ..	2:30 P. M.	4:15 P. M.
Connersville & Newcastle.....	6:00 P. M.	10:20 A. M.
Hamilton, Eaton & Richmond.....	6:15 A. M.	10:25 P. M.
do do ..	5:00 P. M.	10:25 A. M.
Hamilton Accommodation.....	9:30 A. M.	8:05 A. M.
do do ..	6:00 P. M.	6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION

Connersville, Rushville and Indianapolis Mail.....	6:15 A. M.	10:20 P. M.
St. Louis and Indianapolis Exp ..	2:30 P. M.	4:15 P. M.
Cambridge City and Newcastle.....	6:15 A. M.	10:20 A. M.
Cambridge City and Newcastle.....	6:00 P. M.	10:25 P. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express ..	7:00 A. M.	7:00 P. M.
Night Express ..	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	6:00 A. M.
New York Express.....	10:00 P. M.	5:00 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	8:45 A. M.
Springfield Express.....	3:40 P. M.	3:48 P. M.
St. Louis Lightning Express.....	11:00 P. M.	1:15 A. M.
Lawrenceburg Accommodation.....	10:00 A. M.	2:35 P. M.
do do ..	4:45 P. M.	8:00 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	3:48 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:00 A. M.
Harrison Accommodation.....	6:05 P. M.	6:42 A. M.
Chicago and Cambridge City.....	6:30 P. M.	10:15 P. M.

OHIO AND MISSISSIPPI.

For St. Louis, Cairo ..	7:00 A. M.	6:00 A. M.
Evansville and Louisville.....	5:10 P. M.	9:00 P. M.
do do ..	10:35 P. M.	11:15 P. M.

Only Sunday trains are 5:10 P. M., leaving, and 6 A. M. arriving.

KENTUCKY CENTRAL

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

Cincinnati Southern Railway.

Its Connections with the Southern Railroads at Chattanooga or Knoxville.

The Cincinnati Council having been obliged to fix a *Southern Terminus* to the Southern road, fixed Chattanooga; But this, by no means determines by what route through Kentucky, or, at what point connections shall be made with the Trunk lines. In fact, the whole question of routes and connections is left open, with the exception that the general direction of the Southern Road shall be toward Chattanooga. If, as the friends of Chattanooga desire, the road goes to "Chitwood," there the connections with Knoxville will be made direct, through the Eagle Gap, and it is perfectly plain, that all connections with the Virginia, North Carolina and South Carolina Roads will be made at Knoxville. At any rate, that is the best point to assume in giving a view of the connection with the Southern roads.

In looking at Knoxville as a center of railroads, it must be borne in mind, that all the roads of Virginia, North Carolina and South Carolina must come to Knoxville, unless they would tunnel great ranges of mountains to get out of the way. Those of Georgia and Alabama may go to the West and turn, as the soldiers say, the flank of East Tennessee, and this they now do to go to Louisville, or to St. Louis, or Chicago, *via* Cairo; but, if their object be Cincinnati, why should they? But, disregarding that, let us simply take Knoxville, as a center of railroads.

1. Of Virginia. There is but one way in which any road can pass through South-west Virginia, without immense and useless expense, and that is through the Valley, and accordingly this connection is made by the East Tennessee & Virginia, the Virginia & Tennessee and the Lynchburg & Petersburg Roads. These make a complete line from Knoxville to tide-water in Virginia. This line is composed as follows, viz:

Knoxville to Bristol.....	130 miles.
Bristol to Lynchburg	204 "
Lynchburg to Petersburg.....	123 "

Virginia Valley Line.....457 "

From Knoxville to Lynchburg is 334 miles, and it is well to observe here, that if there be a direct railroad from Knoxville to Cincinnati, there is no point in that 334 miles, from which Cincinnati can be ever reached as readily, as through Knoxville. Here then is one radial line from Knoxville, over 300 miles in length, to which no point West of Knoxville can pretend.

2. Of North Carolina. North Carolina has planned and in a great measure completed a system of railroads which shall reach every important point in the State, one part of which rests on the Atlantic sea-board at the important ports, and the other, (which has

already reached the mountains) is to rest on Knoxville. It may be said that this system of roads have not yet reached Knoxville. True, but, neither has Cincinnati reached Knoxville, and it is vain to say in this era of vast works and immense wealth, that a comparatively short line of railroad supported by the entire strength of a State will not be made, when it is to connect one great system of railroads with another. On tide-water, the North Carolina system rests on the three points of Beaufort, Wilmington and Fayetteville. These all connect with the Western line, which is finished from Salisbury to Morganton and is to pass through Ashville to Knoxville.

The Fayetteville Branch is not completed, but the North Carolina system of roads will be thus expressed:

Beaufort to Goldsborough.....	96 miles.
Goldsborough to Charlotte.....	223 "
Wilmington to Goldsborough	85 "
Weldon to Goldsborough	77 "
Fayetteville to Greensborough (finished).....	50 "
Fayetteville to Greensborough (unfinished).....	50 "
Wilmington to Charlotte (finished).....	110 "
" " (unfinished).....	80 "
Salisbury to Morganton.....	70 "
Morganton to Ashville (unfinished).....	60 "
Ashville to Knoxville	100 "

Total.....1,004 "

Of this system, all but 290 miles are completed, and of the main line from Beaufort to Knoxville only 160 miles are incomplete. This line is composed as follows, viz:

From Beaufort to Goldsborough.....	96 miles.
" Goldsborough to Salisbury.....	180 "
" Salisbury to Ashville.....	130 "
" Ashville to Knoxville.....	100 "

From Knoxville to Beaufort..... 506 "

From Cincinnati to Beaufort via Knoxville..... 776 miles.

Now can anybody tell how even Beaufort on the Eastern shore of the Atlantic can be reached easier, than by a continuous railroad through Knoxville? But, conceding that it could be via Baltimore, it is absolutely certain that from Raleigh (the seat of government) to Knoxville a distance of 362 miles, Cincinnati could have no Eastern competition in the sale of manufactures, provisions, or grain.

The line from Wilmington to Knoxville will be formed thus:

Wilmington to Charlotte.....	190 miles.
Charlotte to Ashville.....	120 "
Ashville to Knoxville.....	100 "

Total..... 410 "

This line is partly finished to Ashville, and from Cincinnati to Wilmington, via Knoxville will be 680 miles, and to within 50 miles of Wilmington, it will be impossible for any Eastern city to compete with Cincinnati, on account of transshipment, and greater distance.

The Line from Fayetteville to Knoxville will be formed thus:

Fayetteville to Greensborough	100 miles.
Greensborough to Salisbury	50 "
Salisbury to Ashville	130 "
Ashville to Knoxville	100 "

Total..... 380 "

The whole of this region is within the commercial grasp of Cincinnati without competition, if the direct line to Knoxville be made. The next State, whose railroad system is within reach of Cincinnati, by a railroad to Knoxville is South Carolina.

3. Of South Carolina. The railroad system of this State centralizes at Charleston, its principal port. That part which tends to the North-west, and terminates at Knoxville is as follows:

Charleston to Columbia	130 miles.
Columbia to Greenville	143 "
Columbia to Charlotte	109 "
Spartenburg to Alton	68 "
Anderson to Walhalla (Blue Ridge R R)	33 "
Walhalla to Knoxville (finished) ..	20 "
" " " unfinished	120 "

Total connected with Knoxville, 623. "

The line from Knoxville to Charleston will be made up as follows:

Charleston to Columbia	130 miles.
Columbia to Anderson	127 "
Anderson to Knoxville	173 "

Total from Knoxville to Charleston 430 "

On this whole distance no city in the United States can compete with Cincinnati.

According to the latest surveys, the entire distance, from Cincinnati to Charleston via Knoxville is 704 miles, the air line between the places being 500 miles. Such is the nature of the great mountain chains in that region, and the necessity of following water courses, that it can not be made materially less, except by a cut off from New Market to Aiken, over a very practicable route, which would reduce the distance between 50 and 60 miles; no other route can be made as near, as that by Knoxville. From Anderson to Knoxville the route is made by the Blue Ridge Railroad Company, which has already completed 33 miles from Anderson and 20 miles from Knoxville, and done an immense deal of work in the mountain section. Having the credit of the State, and the work already done, there is no doubt the required capital can be had, and this great work be finished to Knoxville. It is of prime importance that it should connect with the Blue Ridge Railroad, having the gateway of the South Atlantic, through the Rabun Gap. Thus, we see the entire system of South Carolina Railroads will come to Knoxville, and must seek its connections with the Ohio Valley, through the central town of East Tennessee. This brings us to Georgia, and we shall see that Georgia is scarcely less connected with Knoxville, than is South Carolina.

4. Of Georgia. The Georgia system of

Railroads directly connected with Knoxville is composed as follows, viz:

Knoxville to Dalton	107 miles.
Dalton to Atlanta	100 "
Atlanta to Augusta	171 "
Atlanta to Savannah (via Macon) ..	293 "
Atlanta to West Point	87 "

Total distance from Knoxville, 778 "

In addition to this, there is the line now making, from Savannah to the "Blue Ridge Railroad" via Augusta. There is now a line completed from Savannah to Augusta, and a short line to be made from Augusta to the Blue Ridge Road. On the completion of the latter road, there will be two complete roads, viz: Knoxville, from Savannah to Cincinnati, if the "Southern" road be made from this city. If that be the case, there will be three lines through Georgia, connecting respectively with Augusta, Savannah, and West Point, on the Chattahoochee, and at the latter point, connecting with the roads through Central Alabama. These lines will be made up as follows, viz:

Cincinnati to Knoxville	274 miles.
Knoxville to Dalton	107 "
Dalton to Selma	235 "

Total from Cincinnati to Selma 616 "

If a direct railroad was made from Selma to Chattanooga, it would be rather nearer, and yet, would make no considerable difference in the route.

At Chattanooga, there would be added 616 miles of Tennessee road; so that the sum total of the Southern system of roads, united by the Cincinnati Trunk Line will be:

Virginia line to tide-water	457 miles.
North Carolina system via French Broad	1,001 "
South Carolina system via Blue Ridge R R	623 "
Georgia system via Dalton	778 "
Alabama	557 "
Tennessee	616 "

Grand aggregate..... 4,032 "

Taking Knoxville, (or Chattanooga would make but little difference,) as a center for radial lines, we have the following results, in regard to ten Southern centers:

Knoxville to Petersburg via Lynchburg	457 miles.
Knoxville to Beaufort via Salisbury ..	506 "
" " " Wilmington via Charlotte	410 "
Knoxville to Fayetteville via Salisbury	380 "
Knoxville to Charleston via Blue Ridge Railroad	430 "
Knoxville to Augusta via Atlanta	378 "
" " " Savannah	500 "
" " " Montgomery via West Point	382 "
Knoxville to Selma via Dalton	342 "
" " " Memphis via Nashville	523 "

Now, suppose the Cincinnati Southern Railway go direct to Knoxville, the distance will be as we have seen above, 274 miles. Add that to each of those lines, and you have the following results:

Cincinnati to Petersburg	731 miles.
" " " Beaufort	780 "
" " " Wilmington	684 "
" " " Fayetteville	654 "
" " " Charleston	704 "
" " " Augusta	652 "
" " " Savannah	774 "
" " " Montgomery	656 "
" " " Selma	616 "

Here we may close this statement, with the conclusion, which we had arrived at in a former article, that we think this Southern connection is of far more importance than any that has been heretofore thought of. If Cincinnati is again to assert her supremacy in the Ohio Valley this is the way to do it, she must connect with all the roads leading from the South to the North.

Blue Ridge Railroad.

By reference to the advertisement in another column, it will be seen that the State of South Carolina is in earnest in reference to the Blue Ridge Railroad and a direct connection with the food region of the Ohio Valley and the North west. Indeed this spirit of improvement has fairly awoke throughout the entire South, and a full and hearty response will be made to the effort of Cincinnati to open up avenues for commerce; and by the time the Cincinnati trunk road is completed, side roads and great trunk lines will be extended to meet it, giving us connections with every portion of the Southern States. None of them will be of more importance to the trade and manufacturing interests of Cincinnati than the Blue Ridge Railroad. For thirty years it has occupied in the hearts of the people of South Carolina the same position, that "a direct connection with the Southern system of railroads" has in the minds of the thinking men of Cincinnati. To-day it has lost none of its freshness—the desire and determination to secure its realization is as strong as ever, and is well backed up by the credit and influence of the State Treasury, which, though not plethoric, is not embarrassed with a crushing debt.

The Charleston Courier says "the fact that Governor Scott is advertising for contracts in connection with this road gives rise to a reasonable presumption that its completion may be looked for at an early day. A gentleman of some experience in such matters, writing to the Courier, suggests that a great portion of the road can be built, and that speedily, with convict labor. The many convicts that now fill our jails, work-houses and penitentiary can be made a source of revenue to the State, as our neighbors on the Savannah River have done. General Ruger, while Military Governor of Georgia, leased the penitentiary convicts of that State to parties who obligated themselves to pay ten dollars for each one per month, feeding and clothing them. The convicts built the greater portion of the Selma, Rome and Dalton road from

Cross Plains to Rome, and are now building the Dalton Branch. Some two hundred and fifty are also at work on the Macon & Brunswick road. The contractors find them the best labor they can get and prefer them to free labor; while the convicts prefer laboring in the open air to being shut up in cells, by which means their condition is ameliorated. Let Governor Scott follow General Ruger's example and hire out these convicts, and not subject the impoverished tax-payers of our State to the additional expense of feeding them. If the thieves and robbers who infest our State and rob and plunder for a living can be captured and convicted and put to this work, it will not only save the State many thousand dollars, but also make them useful members of a community in which they have forfeited their privileges. The project is worthy of a trial."

Baltimore and Ohio Railroad.

EARLY HISTORY.

The age in which we live is one of progress, and although we sometimes hear it said that "there is nothing new under the sun," we think a comparison of the status of railroads forty years ago with the present net work of iron ways that traverse not only our own country but the world, will convince the most skeptical that if railroads are not a "new thing," there has been at least considerable improvement in their construction. The following interesting sketch is from the "*Mechanics' Magazine*," London, Nov., 1830.

RAILWAY EXPERIMENTS IN AMERICA

[We extract from the *Baltimore Gazette* the following account of some recent experiments on the Baltimore and Ohio Railway.* We have read it, we must confess, with some degree of surprise. "The Engineers in England" are here said to "have been decidedly of opinion, that locomotive steam-engines

could not be used on curved rails. We doubt whether any engineer in England ever expressed himself in such unqualified terms; and are quite certain that such is not the general opinion of men of science on this side of the Atlantic. What the "engineers in England" have maintained on the subject is this—that locomotive steam-engines can not be economically employed on curved rails, inasmuch as the power required to overcome the acclivities of such rails is just so much exerted to no purpose on the level. And that this is the truth is abundantly demonstrated by the very experiments which are here presented to our notice as discrediting the opinion of the engineers of England, and as (absurdly enough) constituting "another triumph of the efforts of American genius!" The greatest speed attained on these American curved lines was 1 mile in 4 minutes; on the levels of the Liverpool and Manchester Railway, a mile in two minutes is now an everyday performance. Indeed, all that the writer of this account himself contends for is, that these experiments "establish the fact, that steam-power may be used on our road (the Baltimore and Ohio) with as much facility and effect as that of horses at a very reduced expense." But who ever disputed that? It does not, by the bye, say much for the construction of this Baltimore and Ohio Railroad, that it should be such an up-and-down affair as it would seem, from the present statements, to be. A worse description of railway could not be imagined.—Ed. M. M.]

On Saturday (the 28th of August last) the first railroad car, propelled by steam, proceeded the whole distance from Baltimore to Ellicott's Mills, and tested a most important principle, that curvatures of 400 feet radius offer no material impediment to the use of steam power on railroads, when the wheels are constructed with a cone on the principles ascertained by Mr. Knight, Chief Engineer of the Baltimore and Ohio Railroad Company, to be applicable to such curvatures. The Engineers in England have been so decidedly of opinion, that locomotive steam-engines could not be used on curved rails, that it was much doubted whether the many curvatures on the Baltimore and Ohio Railroad would not exclude the use of steam-power. We congratulate our fellow-citizens on the conclusive proof which removes for ever all doubt on this subject, and establishes the fact, that steam-power may be used on our road with as much facility and effect as that of horses, at a very reduced expense.

The engine (Cooper's locomotive engine) started from the Pratt-street depot, taking the lead of a train of carriages. The power of the engine is little, if any, over that of one horse, and it can therefore only be regarded as a working model. Immediately in front of and connected with it was a passenger-carriage containing (including the engine-attendants) twenty-four persons. The aggregate weight of carriages, persons, fuel and water, as nearly as could be ascertained, was estimated to be from four to four and a half tons. Notwithstanding the great disproportion of the moving power to the load, the following highly gratifying results were obtained—the time being accurately noted by disinterested gentlemen of the first respectability.

1st mile—performed in six minutes and fifty seconds, the steam in the outset not being fully raised.

2d mile—performed in five minutes; one minute was lost in altering the switch to pass from one track to the other.

3d mile—traveled in six minutes; two min-

utes lost in changing from one track to the other, the switch not being in the right place.

4th mile—was traveled in four minutes and thirty seconds.

5th mile—occupied five minutes and twenty-five seconds.

6th mile—traveled in six minutes; one minute was lost in changing to the other track.

7th mile—traveled in five minutes and thirty-seconds. The engine stopped at the middle depot for fifteen minutes, to receive a supply of water.

8th mile—performed in six minutes.

9th mile—performed in five minutes and forty-five seconds; the engine traversing an ascent of thirteen feet per mile, and encountering the numerous curves which abound in this part of the road.

10th mile—performed in seven minutes—the engine still ascending at the rate of thirteen feet per mile, and the road much curved.

11th mile—in seven minutes and thirty seconds; the same disadvantage of an ascending and curved line of road being still encountered.

12th mile—in seven minutes and thirty seconds; the ascent being here increased to eighteen feet per mile, and the line curved.

13th mile—in six minutes and thirty seconds; the same disadvantages of an ascending and curved line being encountered as in the preceding mile.

Making the aggregate passage of thirteen miles, under the circumstances detailed, in the space of one hour and fifteen minutes.

On the return of the locomotive-engine, at six o'clock in the evening, the following results were realized—there being four additional passengers, or thirty in all, seated in the attached carriage:—

1st mile—traveled in five minutes.

2d mile—in four minutes.

3d mile—in four minutes, six seconds.

4th mile—in four minutes.

5th mile—in four minutes, four seconds.

6th mile—in four minutes, five seconds.

(four minutes occupied in taking in a supply of water.)

7th mile—in five minutes.

8th mile—in three minutes, fifty seconds

9th mile—in four minutes, twenty-five seconds.

10th mile—in four minutes, ten seconds.

11th mile—in four minutes, forty seconds.

12th mile—in four minutes, fifty seconds.

13th mile—in four minutes, fifty seconds.

Making the entire passage of thirteen miles in sixty-one minutes, including the four minutes lost in taking in water at the middle depot. If this be deducted, it will give precisely fifty-seven minutes as the time which the engine consumed in traveling the distance. It should also be borne in mind that these are experiments merely, and that several material improvements have already suggested themselves to the inventor. The result, under all the circumstances, is highly satisfactory, and constitutes another triumph of the efforts of American genius.

We have the pleasure of laying before our readers the following highly interesting letter from Ross Winans, Esq., the inventor of the friction wheels now in general use on the Baltimore and Ohio Railway, giving a comparative view of the performance of the locomotive engine of the Messrs. Stephenson, of England, contrasted with that of Mr. Cooper, on Saturday last.

* At the Engineers' Dinner in Liverpool, on the occasion of the opening of the Liverpool and Manchester Railway. Mr. Robertson having proposed as a toast, "Success to the Baltimore and Ohio Railroad, and to the Railways of the United States generally;" Mr. Ogden the American Consul rose and said, "That for the public notice which had been taken of his country on this occasion he felt sincerely grateful, and he did most cordially hope that the two nations would long continue to derive great reciprocal advantages from their intercourse with each other.—(Applause.) With respect to the great work alluded to, concerning which the gentleman who last spoke had expressed his desire to learn some particulars, he would gladly communicate so much as he knew, which, not being himself in any way connected with it, he derived from the public accounts and other communications which he had seen. Its object was to connect the Ohio and the "Western waters" with the Atlantic at the distance of between two and three hundred miles.—(Applause.) Of this, between twenty and thirty miles were already completed: ninety miles more were now in progress; and it is supposed that three or four years will suffice to complete the whole. He understood that the part that was finished was already in profitable operation, in the transport of goods and passengers, from which the subscribers were deriving advantage. He was at present engaged in sending out to Louisiana rails for part of another very extensive line that was in contemplation, and if the gentleman near him (Mr. Braithwaite and Capt. Ericsson) made haste to perfect their invention, he should be glad to send out engines also, to be used on that line, which it was intended to carry from New Orleans to Lake Erie. (applause) but he confessed that he did not look to its completion for many years to come. Six miles of it were now completed; but unless the several States would concur in each undertaking, so much of the line as passed through their respective boundaries, he should despair of its being carried to its conclusion, as it could never be rendered a public or national work."—*Liverpool Chronicle*.

Baltimore, August 28, 1830.

*Philip E. Thomas, Esq., President of the
Baltimore and Ohio Railroad Company:*

Sir,—The performance of the working model or experimental locomotive engine of Mr. Cooper has been such to-day as to induce me to attempt a hasty comparison of its dimensions and performances with some of the late celebrated English locomotives, having witnessed the grand locomotive exhibition at Liverpool in October last, for the £500 prize, and many other interesting experiments by the Novelty and Rocket since that time. As Mr. Cooper's engine has been got up in a temporary manner, and for experiment only, and has been on the road but a few days, it will be no more than justice to make the comparison with some of the early experiments of the English engines. I have, therefore, selected the experiment of the Rocket, in October, on the result of which, the premium of £500 was awarded to Mr. Stephenson, its builder, for having produced the most efficient locomotive engine, &c. The Rocket is professedly an eight-horse power when working at a moderate speed; but when working at high velocities, she is said to be more than eight horse power. Its furnace is 2 feet wide by 3 feet high; the boiler is 6 feet long and 3 feet diameter. The furnace is outside of the main boiler, and has an external casing, between which and the fire-plate there is a space of three inches filled with water, and communicating with the boiler. The heated air from the furnace is circulated through the boiler by means of 25 pipes of 2 inches internal diameter. It has two working cylinders of 8 inches internal diameter, and 15 inches in length, each, or thereabouts. The road wheels, to which the motion is communicated, are 4 feet 8½ inches diameter. Mr. Cooper's engine has but one working cylinder of 3½ inches diameter, and 14½ inches stroke of piston, with a boiler proportionably small, or nearly so. The wheels of the engine, to which the motion is communicated, are 2½ feet in diameter, making it necessary to gear with wheel and pinion, to get speed, by which means a considerable consumption of power is experienced. You will perceive by the foregoing that the capacity or number of cubic inches contained in the cylinder of Mr. Cooper's engine, is only about one-fourteenth part of that contained in the two cylinders of the Rocket, consequently it can only use one-fourteenth the quantity of steam under the same pressure, when each engine is making the same number of strokes per minute, which is nearly the case when the two engines are going at equal speed on the road. The total weight moved in the experiment above alluded to, by the Rocket, including her own weight, was 17 tons, on the level road, at an average speed of 12½ miles the hour; thereby exhibiting (agreeably to Vignoles' late table of the power of locomotive engines) a little less than a six horse-power. Mr. Cooper's engine has to-day moved a gross weight of 4½ tons from the depot to Ellicott's Mills and back in the space of two hours and ten minutes, which, as you are aware, the distance being 26 miles, gives an average speed of 12 miles to the hour. As the engine returned with its load to the same point from whence it started, the acclivities and declivities of the road were of course balanced, and at least as much time and power (if not more) were required to traverse the whole distance as would have been on a level road, therefore (agreeably to the aforesaid tables of Mr. Vignoles) Mr. Cooper's engine exhibited an

average force during the time it was running 1.43 horse-power, or nearly one and a half, which is more than three times as much power as the Rocket exhibited, during the experiment above described, in proportion to the cylindrical capacity of the respective engines; this, no doubt, originated in a considerable degree from the steam being used in Mr. Cooper's engine at a higher pressure than in the Rocket: we are, however, not able to come to any very correct conclusion as to what extent this cause prevailed (Mr. Cooper's steam-gauge not being accurately weighed,) which prevents a more minute comparison being made. It may be said that subsequent practice and experience with the Rocket have enabled her constructor to produce more favorable results, which is no doubt the case, but we have every reason to expect a similar effect with regard to Mr. Cooper's engine—judging from what we have witnessed each exhibition of its power being, as yet, an improvement upon the one that preceded it. It is, however, too small and too temporary in its construction to expect a great deal from the friction of the parts; the heat lost in a small engine being much greater in proportion to the power than in a large one; but to-day's experiments must, I think, establish, beyond a doubt, the practicability of using locomotive steam-power on the Baltimore and Ohio Railroad, for the conveyance of passengers and goods at such speed and with such safety (when compared with other modes) as will be perfectly satisfactory to all parties concerned, and with such economy as must be highly flattering to the interests of the company. It has been doubted by many, whether the unavoidably numerous short curves on the line of your road, and inclined planes, would not render the use of locomotive power impracticable, but the velocity with which we have been propelled to-day by steam-power, round some of the shortest curves (to wit, from 15 to 18 miles per hour) without the slightest appearance of danger; and with very little, if any, increased resistance, as there was no appreciable falling off in the rate of speed, and the slight diminution in speed in passing up the inclined planes, some of which were nearly 20 feet to the mile, must, I think, put an end to such doubts, and at once show the capability of the Baltimore and Ohio Railroad to do all, and much more than was at first anticipated or promised by its projectors and supporters.

This admirable effect of turning curves of 400 feet radii at fast speed, with very little, if any, increased resistance, I believe to be new in the history of railways, or, at least, that it is brought to a greater degree of perfection on the Baltimore and Ohio Railroad than on any other. It results from the judicious and scientific construction of the tread of the main wheels (introduced by Mr. Knight, your principal engineer,) by combining the cone and cylinders, which expedient, as far as I know, has never been attempted in Europe. In the formation of the tread of the main wheels, each possessing their peculiar advantages, and operating much more beneficially when connected than when used separately, the main tread being cylindrical, offers less resistance to motion (when moving in a right line) than any other shape. That part of the face of the wheel which is assigned for play on the rail is made conical, and is only called into action when necessary, and to such an extent only as to correct the course of the car; and all the cone being placed immediately between the inside edge of the rail and the flange of the wheel, it is evident the flange can never come into

contact with the rail until the whole cone is brought into action (which is far from being the case with the English coned-wheel,) the extent of which being graduated to the extreme curves of the road, is sufficient to counteract the shortest curves, thereby enabling the wheels to traverse much shorter curves, and at the same time avoid some of the disadvantages of a cone extending over the whole tread of the wheel. This effect is materially aided by the free and unrestrained action afforded to the cone of the wheels, by the peculiar construction of the wagons adopted by the Baltimore and Ohio Railroad Company.

These improvements can not fail to secure a profitable return for money invested in this road, and will undoubtedly induce the Company to adopt steam as a moving power upon it instead of horses, as was at first anticipated. Steam will be found not only to produce a great saving in the cost of transportation, but with it a much higher rate of speed may be attained for goods and produce as well as passengers than by animal power, it being one of the advantages of steam-power on railroads, that the cost of transportation is very little, if any, increased by an augmentation of speed. You will also thereby be enabled to avoid the great perplexity and delay which would originate from two rates of speed; viz.—The one for goods, &c., and the other for passengers, and the cost of constructing numerous turn-outs to accommodate such arrangements will be saved.

Very respectfully,
ROSS WINANS.

Pacific Railroads.

WASHINGTON, July 6.

JUDGMENT ON THE PACIFIC RAILROAD.

The following telegram, from two of the Government Directors of the Union Pacific Railroad, was received by the Secretary of the Interior last week:

SAN FRANCISCO, June 28th, 1869.

We have been over the two Pacific Railroads from Omaha to Sacramento, almost all by daylight, at the rate of thirty miles an hour and more, and we find them to be as good as any new roads ever made in this country. Where they are not perfected, as from Echo Canon to Humboldt, hundreds of laborers are now perfecting the work as fast as possible. We are satisfied that all has been done in good faith.

[Signed.] B. F. WADE,
JAMES BROOKS.

A document of fifty-two pages issued from the Interior Department to-day contains considerable information about this road. Part of it is occupied by the reports of Gen. Warren and other Commissioners of their examination, when there remained fifty five miles of the Union Pacific and one hundred and thirty miles of the Central Pacific to complete. The chief points of the report were published six weeks ago and need not be repeated. They estimated that it would take \$1,993,380 to supply the deficiencies on the completed portion of the Central Pacific Road, 551 miles, and 6,771,710, to supply deficiencies on the 1,035 miles completed of the Union Pacific.

Among the additional documents is a statement from the Vice President of the Central Pacific, showing that up to the 17th of May, from the time the Commissioners made their examination, his road had purchased goods

and materials to the amount of \$4,465,000, all of which had arrived and or on the way, and the President of the Union Pacific shows a similar expenditure for his road of \$4,272,277. Gen. Warren adds a paragraph to his report, in which he says that the greater part of the expenditure thus shown by the Central Pacific Railroad, must have been for the section of thirteen miles not completed when the line was examined. The expenditure of the Union Pacific seems to have been mostly on the part examined by the Commissioners. Letters from Chief Engineer Dodge and President Oliver Ames, of the Union Pacific, are given. That of Mr. Ames is dated the 14th of last month, and one of its paragraphs is as follows.

By affidavits herewith submitted we show an expenditure of \$4,272,271 in bringing up our road to the requirements of Commissioners, leaving but \$2,499,453, in their estimate, to be expended to fully meet said requirements. I wish to call your attention to a few estimates made by the Commissioners, which the opening of the road shows to have been entirely erroneous. They require sixty-eight new locomotives. We have ordered forty locomotives, in addition to what we had when their estimate was made, and have now forty or fifty too many for our work. They require four hundred and eighty box freight cars. We have too many already. They require seventy additional locomotive stalls, which is forty more than we need. They require enlarging our shops at Omaha to enable us to do a vast amount of repairs incident to so rapid a construction of the road, and to build three or four cars per diem. We erected expensive shops at Omaha, which we now find larger than the business of the road demands. Since the completion of the road we find most of our shops too large. One hundred and fifty thousand dollars more will supply all the additional shops needed for our work, over the entire line. They require us to repair 69 engines at \$3,000 each, while today but twelve need repair. Our engines are all new, very few over two years old, while the great mass of them have been in use less than one year. Government can rely upon us to keep our rolling stock and machinery in good order. We are now running one through passenger train a day each way, and freight and construction trains will very soon be dispensed with. We have a very large surplus of motive power and rolling stock. A few passenger cars only are needed in case we run two trains a day. Not expecting to have the road finished before July, we had contracted for about forty passenger cars, to be delivered at that date; but under the new arrangements many of them have already been delivered, and the balance will soon be upon the road. We have been able thus far to splendidly accommodate our passengers, and with this large increase of passenger cars, and ten more new Pullman's silver Palace cars, we do not anticipate any embarrassment.

Mr. Ames, on this showing, claims a deduction of \$2,295,000; adding this to his expenditure of but \$204,423 is necessary to meet the requirements of the Commissioners. If to this be added the estimate in the report just made by Messrs. Warren and Wilson on the last fifty miles of road, it appears that less than half a million dollars required to make the whole line of the Union Pacific conform to Gen. Warren's idea of a first class road.

It seems worth while to deny in this connection the story set afloat by Mr. Morris that the Union Pacific has not complied with the law of last April requiring a deposit of first

mortgage bonds, to secure the completion of its line. The letter of Mr. Ames says they have so deposited with the Treasurer of the United States bonds to the amount of one million six hundred thousand dollars.

Union Pacific Railroad.

LETTER FROM COMMISSIONER MORRIS—HE REPLIES TO JUDGE CATON AND HORACE WHITE.

WASHINGTON, July 1, 1869.

Judge John D. Caton:

SIR—I find in the Star of this city the following dispatch which is going the rounds of the papers:

"Judge Caton and Horace White, of Illinois, send a dispatch from Salt Lake, under date of June 26, pronouncing Commissioner Morris' report in all particulars a piece of unmitigated nonsense," and declaring the road "to be the best constructed, considering its newness, ever built in this country."

Well, Judge, this will do for you, and as you are the responsible man, to you I will reply.

You went over the road for a pleasure trip—I to examine it.

Your telegram is dated the 26th of June, at Salt Lake. My report was not published anywhere until that day, and at no point nearer than 1,600 miles to you! All you could have known about it, if anything, was some prejudicial telegraph sent by an interested party. Such party came to this city to get such account sent off to forestall public opinion in advance of its appearance, while it seems you stood at the other end of the line to echo back the sentiment. If you were not a stationed witness how did it happen you were so soon hunted up and brought into court? You say my "report is unmitigated nonsense in all particulars," just as though you had read it, when in fact you had not, and did not know what it contained.

Was it "unmitigated nonsense" to say the road has pine ties, is not ballasted, is without the proper buildings; that sandstone is used for abutments and piers; that streams are crossed on trestle work; that the tunnels are single instead of double track; that the road bed at the grade line is not a uniform width of 14 feet; and that it is right the Government should be secured in the twenty-eight millions it loaned to the company to complete it, in bonds? And yet, the proper officer of the company has filed affidavits that it was completed. Yes, yes, to you this is "unmitigated nonsense." But you say, Judge, it is a road for its "newness!" Here you put in the old, worn-out plea! If you know anything about the matter, you know the law admits of no such plea—that it requires a "first-class railroad," "in all respects" to be constructed before the bonds are paid. Gen. Warren and Mr. Wilson report that four of the sections just examined require the expenditure of \$230,450 to complete them! A month or so ago General Warren reported it would require \$6,771,710 to complete the Union, and \$4,493,380 to complete the Central Pacific road.

To insure this completion the Central Pacific Railroad Company honorably and promptly put up the securities required by the resolution of Congress passed on the 10th of April last.

The Union Pacific Railroad Company has not put up a dollar of securities required by

said resolution, as will appear by the following statement, furnished me to-day by the proper officer of the Treasury Department:

"TREASURY DEPARTMENT, July 1, 1869

"Hon. Isaac N. Morris:

"No bonds have been deposited in this Department by the Union Pacific Railroad since the passage of the resolution by Congress, April 10, 1869, requiring the Union and Central roads to deposit their first mortgage bonds as security for the completion of their respective roads Jno. P. BIGELOW."

Where is the money to come from to complete the road upon the basis of Gen. Warren's estimate of seven millions of dollars in round numbers. Will you tell us Judge? and will you tell us whether this looks like keeping good faith with the Government on the part of the company?

All of this I suppose you also regard as "unmitigated nonsense"—anything that does not propose to sacrifice the interest of the people, and tax them for the benefit of a vast monopoly is, according to your theory, "unmitigated nonsense." The law embraced in my report, the figures I obtained officially from the departments, are all "unmitigated nonsense" in the minds of John D. Caton and other votaries of the road, who feed upon its beauty, and whose hostility I expected to encounter if I dared to tell the truth—all must necessarily be false in their estimation but they can not change facts and figures. Ah! yes. Ah! yes. The people will settle the question between us in the end.

You are a millionaire now, Judge, you made your money out of telegraphs and railroads, and worship at no shrine but Mammon. When on the bench of our State it was notorious that no individual stood an equal chance of obtaining justice at your hands, if opposed by a railroad or telegraph company. You are an interested witness Judge, and testified very willingly. I advise you to cease exchanging your evidence for a free ride, a good dinner and a few bottles of champagne—to talk about that of which you know something—try and see if you can not make yourself less ridiculous, by attending to your own business—go home—get you a Bible and prayerfully study the ninth commandment.

ISAAC N. MORRIS.

California Branch of the Southern Pacific Railroad.

There is a prospect that work will shortly be commenced on this road in earnest. Indeed, for all practicable purposes, about 80 miles of the road, from San Francisco to Gilroy, are now completed and in operation. It is understood that a final segregation of the lands granted for depot purposes in this city, will be made in behalf of the company in a few days. The final location of the route from Gilroy to the Colorado river, has been delayed longer than was anticipated. But the best engineering talent to be obtained has been called into the field; and the topography of the country has been examined with much greater care than would have been possible, if the final surveys had been made upon the first organization of the company. The distance from San Francisco to the Colorado river, near Fort Mohave, the proposed crossing, is 575 miles. Deducting the road already finished to Gilroy, and there is a fraction less than 500 miles to be constructed.

The site proposed for the crossing of the Colorado is at the "Needles," a point 25 miles below Mohave City; 250 miles by the river above Fort Yuma, and 100 miles below Callville. This may be called the initial point of the California branch of the Southern Pacific Railroad. This point is 428 feet above tide water. Starting westward, the line traverses the "Mohave Desert," which extends nearly across the county of St. Bernardino. This section of country is well known to Arizona pioneers. It is nearly a worthless country; but presents no such formidable obstacles to railroad building as were at first supposed. There will be no difficulty in obtaining water and other supplies. This arid country does not seem to differ greatly in character from the Utah Desert, crossed by the Central Pacific Railroad. Proceeding westerly from the Colorado, the foot hills of the Sierras are reached at the distance of 235 miles. Here commences the famous Tehachapa Pass, distant about 40 miles from old Fort Tejon.

It is by this pass that the only practicable egress is found through the Sierras into the great valleys of Tulare and San Joaquin. The summit of this pass is 4,008 feet above tide water. The Donner Lake Pass, on the Central Pacific, has an altitude of over 7,000 feet. The Tehachapa Pass is the only formidable mountain elevation on the entire line from Kansas City to San Francisco. The summit of this pass is a smooth table land, with trees, having the aspect of a park, and furnishing good grazing for cattle a considerable part of the year. This pass and the valley lying east, of the same name, have been famous grazing grounds for a long time. In dry and "famine" seasons cattle are driven to this pass and beyond, where they are saved from destruction. There is never snow enough in this pass to cause any obstruction to railroad travel, a few inches only falling, generally in the month of March. When this Tehachapa table land is crossed, the great valleys open on the north, with the Coast Range Mountains on the west. But at some point the Coast Range must be crossed, to get into the Santa Clara valley.

There are five passes in this range between Tehachapa and a point opposite Gilroy. And the question, we believe, has been an open one until recently, whether the line should traverse the Salinas and Pajaro valleys on the west, or extend along the Tulare and San Joaquin valleys on the east, coming through the Coast Range at Pacheco Pass, and intersecting the road already completed at Gilroy. It would be a great thing for the farmers of the Pajaro and Salinas valleys to have the road extend through this rich agricultural region. The Pacheco Pass is now traversed by stages from Visalia, which connect with the cars at Gilroy. The elevation is something over 2,000 feet. Without having any positive knowledge of the final determination of the company, there is a strong impression that the eastern, or San Joaquin and Tulare Valley route, will be adopted.

If a branch road is constructed, and there is now no prospect of anything for San Diego, this branch will intersect the main road near Fort Mohave, and will be about 287 miles long. Of the entire route from Kansas City to San Francisco, one fourth or more is already completed. The California section, we are assured, is in the hands of men who will show their faith by their works. From Kansas City to San Francisco, on the 35th parallel route, the distance is 1,897 miles, and to San Diego, 1,609 miles.—*San Francisco Bulletin*.

Pittsburg, Fort Wayne and Chicago Railway Lease.

From the Pittsburg Chronicle June 25.

Yesterday we gave a brief record of the proceedings of the adjourned meeting of the annual meeting of the stock and bondholders of the Pittsburg, Fort Wayne and Chicago Railway. The stock vote, which was in progress at the time we went to press, was called on the following resolutions:

Resolved, That we, the stock and bondholders of the Pittsburg, Fort Wayne and Chicago Railway Company, hereby assent to and approve of the lease of the railways of said company to the Pennsylvania Railroad Company for the period of nine hundred and ninety-nine years, upon the terms and conditions, and for the annual rental reserved and mentioned in a certain Indenture of Lease thereof, bearing date on the 7th day of June, 1869, executed by or on behalf of the said Pennsylvania Railroad Company and now submitted to us; and that we hereby assent to and approve of the execution and delivery of such lease on behalf of the said Pittsburg, Fort Wayne and Chicago Railway Company: *Provided, however*, That this assent and approval shall not be construed to waive, alter or impair the existing liens of the respective deeds of trust or mortgage by which the payment of the respective bonds are secured; but that this assent and approval is expressly declared and is given upon the condition that the said lease shall be and shall ever be deemed and taken to be subordinate to the aforesaid liens.

Resolved, That the assent of the stockholders is hereby given to the making, by the Board of Directors of this company, of such contract, as is contemplated in article thirteenth of the lease this day submitted, upon the terms and conditions, and upon the approval and assumption by the lease, as in the said article contemplated.

Resolved, That inasmuch as in and by the provisions of the lease of the railway of this company to the Pennsylvania Railroad Company, after satisfying the liabilities of the company for interest and sinking funds, a perpetual dividend fund is provided adequate to pay twelve per cent. upon the existing stock of this company, free and clear of all taxes which may operate as a deduction from the said dividends, it is expedient that a guaranteed stock entitled to dividends at the rate of seven per cent. per annum, payable quarterly in such form and with such guarantee as the Board of Directors may prescribe, and of such aggregate amount as the annual rental \$1,300,000 shall suffice to pay dividends upon, at the aforesaid rate of seven per cent. per annum, shall be created, and that the same shall be issued in substitution of the now existing stock, in such manner and on such terms as the Board of Directors and such committee or officers as they may designate are hereby vested with all powers which the stockholders can confer, and which may be necessary or proper to carry the substitution into complete effect.

A motion was made and carried to vote by ballot on the three propositions severally.

The voting was not concluded until a late hour in the afternoon, when the meeting adjourned to assemble this morning at 10 o'clock to receive the report of the tellers.

It is supposed that about \$15,000,000 of share and bond capital voted at the meeting yesterday of which over \$14,000,000 voted in favor of the lease, and less than \$1,000,000 against it, the larger portion of the latter sum being voted, it is said, by the President.

This morning at 10 o'clock, according to adjournment, the tellers assembled and made their report.

The vote stood as follows:

On the first resolution, 179,701 for, and 7,217 against.

Second resolution, 186,918 for, and none against.

Third resolution, 162,636 for, and none against.

In the meeting of the first and second bondholders, the vote stood about in the same proportion.

At the meeting of the Directors of the road, the usual quarterly dividend of two and a half per cent. was declared, anticipatory of the 16th of July.

We presume that, under the terms of the lease, the active operations of the road will fall into the hands of the lessees, the Pennsylvania Railroad Company, on the 1st of July, General Cass still retaining his position as President of the Pittsburg, Fort Wayne and Chicago Railway, in which capacity he has so long been identified with the interests of that corporation and the business history of Pittsburg.

In this connection, we may state that the Grand Rapids and Indiana Railroad is being pushed forward with great energy on the part of Mr. Cass, the President, northward from Fort Wayne to the Upper Lake country. His energy, as President, joined with that of Mr. J. L. Williams, of Fort Wayne, as Receiver, has built within the last three months twenty miles toward Grand Rapids, and placed twenty miles more under graduation, to be completed within the next three months. This whole route toward Grand Rapids will be completed this year, and will form another great link of transportation and traffic with the Pittsburg Fort Wayne and Chicago Railway at Fort Wayne.—*Am. R. R. Jour.*

The *St. Paul Pioneer* of June 29, says: "We learn from a gentleman connected with the management of the Northern Pacific Railroad Company some more direct facts in regard to the new prospects of the company. The appointment of Jay Cooke as the Fiscal Agent of the company involved his becoming part owner of the stock in the road. This contract is not fully complete, and depends for its ratification on the report of two exploring parties, one of which is now on the road to San Francisco, from whence they will proceed to Sitka, and thence return across the proposed route of the road to Red River. The other party, which will reach the head of Lake Superior in a few days, will explore the route from the eastern terminus westward. If the report of these parties is favorable, Jay Cooke will complete the contract. The Eastern terminus of the road has been fixed, by a compromise between the conflicting interests, at Duluth, Superior and Bayfield. It will be at a point south and west from Duluth, where roads from Duluth, from Superior and from Bayfield will form a junction, with equal rights of connection, running of trains, rates of fare and freight, &c. Immediately upon the return of the exploring parties their report will be made. If it is such as to lead to the ratification of the Jay Cooke contract, \$100,000,000 of the bonds of the company, secured by mortgage on the road bed, franchises and land grant will be placed upon the market. That is the anticipated cost of the construction and equipment of the road. As fast as the bonds are sold work will be proceeded with."

Huron and Ontario Ship Canal.**REPORT OF THE SELECT COMMITTEE.**

The select Committee to which was referred the Petition of John Gordon and twenty thousand others, of the Province of Ontario, praying for the construction of the Huron and Ontario Ship Canal, with power to send for persons and papers, and to report as to the practicability and expediency of the work, have the honor to report,

That this project has, for many years, engaged a large measure of public attention. In 1855, surveys of the route were made by Mr. Kivas Tully, C. E., who reported favorably thereon, and his report was confirmed by that of Col. R. B. Mason, an eminent American Engineer. In 1856, the Parliament of the late Province of Canada incorporated a Company with powers to construct this work. In 1857, a select Committee of the Legislative Assembly of the late Province of Canada was appointed to enquire into and report on the projected work, and on the 9th of June of that year, the Committee, through the late Joseph Hartman, Esq., M. P. P. for North York, their chairman reported strongly in favor of the enterprise, and stated that no work yet projected in Canada has equal claims with the proposed Canal, to a liberal grant of land. In 1864, a select Committee of the Legislative Assembly of the late Province of Canada was appointed to consider the practicability and propriety of constructing this Canal, and on the 31st of May of that year, that Committee, by their Chairman, Thomas D. McConkey, Esq., M. E. P. reported, approving of the report of the previous Committee, and stating that to Canada the project is scarcely less than vital, and that having regard to the magnitude and importance of the work, the Committee suggested that a grant of land commensurate with the importance of the undertaking, should be made as one of the best means of securing the construction of the work.

Your Committee have to report that they have had submitted to them a large body of evidence in reference to the expediency and practicability, in an engineering as well as a financial point of view, of the projected canal.

Your Committee have had under their consideration a full and comprehensive report by Mr. Wm. Sykes, C. E., the resident Engineer of the Canal Company, on the general merits of the proposed canal, containing a large amount of valuable, commercial and other statistics bearing on the subject, and a full description of the engineering features of the work and the prospects for traffic to render it remunerative.

Mr. Capreol, on behalf of the Canal Company, submitted the proposal of a number of capitalists in the United States to undertake one-half of the contract for construction, taking in payment one-half of the capital stock of the Company—say twenty million dollars—provided that the remaining half be undertaken by British or other contractors, and that the company be aided by a grant of ten million acres of land.

Your Committee have had submitted to them letters from Messrs. John Hawkshaw and A. M. Rendel, eminent engineers of London, England, expressing their confidence in the engineering practicability of the work, and from Mr. George Wythes, a prominent and reputedly wealthy English contractor, offering to undertake the remaining half of

the contract for construction, on the basis of the proposal of the United States capitalists already mentioned.

Your Committee have also had submitted to them a number of letters from various parties, prominent and well informed in matters of finance, expressing confidently the opinion that, in the present state of the English money market, the stock of the Company would be readily taken up, provided that a grant of ten million acres of land were made to the Company, but, at the same time, unequivocally stating that, without such grant, the floating of the stock would be impossible at present.

Your Committee had also important evidence from the Hon. Charles Tupper, C. B., Walter Shanley, Esq., C. E., the Honorable John Ross, and the Honorable James Skead, which is submitted herewith.

Your Committee beg to report that they have no doubt as to the expediency of the proposed canal. They are satisfied that if constructed it would be of immense value to the commercial and general interests of the Province of Ontario, and of the whole Dominion of Canada. The interests of Ontario would be greatly promoted by the local expenditure, and the development of the extensive region of unoccupied land north and west of the canal, and the interests of the Dominion, by the introduction into the country of the large amount of capital, estimated at forty millions of dollars, required for its construction; by the encouragement of immigration and by the completion of a most important link in the chain of through communication between the Great West and the Old World. The canal, if constructed, as it would be wholly within British territory, would be a most important key to the trade of the West and greatly conduce to the establishment and continuance of reciprocal trade between this Dominion and the United States of America.

The testimony adduced before your Committee has satisfied them that the work is practicable in an engineering point of view, but that unless a liberal grant of land be given in aid of the Company, the work can not be accomplished.

Independently of these important national, commercial and social considerations, it is obvious to your committee, that a large accession of revenue must accrue to the Dominion Exchequer from the construction of this work, as out of an expenditure of forty millions of dollars chiefly for imported labor, a large amount must flow into the public chest through the customs and excise.

The following statement of comparative distances by different routes, shows the great saving that will be effected by this canal when constructed:

CHICAGO TO QUEBEC.		Miles.
Via Lake Erie, the Welland Canal and St. Lawrence.....	1,550	
Via Huron and Ontario Canal and St. Lawrence.....	1,180	
Making a saving of.....	370	
CHICAGO TO NEW YORK.		
Via Lake Erie and Erie Canal.....	1,504	
Via Welland Canal and Oswego.....	1,500	
Via Huron & Ontario Canal & Oswego.....	1,225	
CHICAGO TO LIVERPOOL.		
Via Mississippi and New Orleans.....	6,000	
Via Erie Canal and New York.....	4,000	
Via Welland Canal and St. Lawrence...	4,180	
Via Huron and Ontario Canal and St. Lawrence.....	3,736	

And it is shown in the report of the Canal Company's Engineer, Mr. Sykes, that with the saving of transshipments, a cargo of 1,000 or 1,200 tons shipped at Chicago for Liverpool via Huron and Ontario Canal would, under ordinary circumstances, reach Liverpool before a similar cargo, shipped at same time, via Buffalo and Erie Canal, could reach N York.

The relations of the proposed Canal to the North-west Territory, and the development of that extensive and valuable portion of the Dominion, are also, in the opinion of your Committee, additional reasons for the construction of the work. The necessity for its use would also, it is believed, lead to an international system of navigation law between this country and the United States, which would be equally just to both and largely stimulate the important industrial branch of ship-building in this Dominion. By means of its construction the river St. Lawrence, which is the natural highway between the Great West (now rapidly becoming the granary of the world) and the consumers of Europe, would be more used than at present. The consequence would be the necessary enlargement of the St. Lawrence Canals and the acquisition to that noble river of the vast trade which nature intended it to have, but which the energy of man has hitherto, to a large extent, diverted through artificial channels in the neighboring Republic. By means of the improvements suggested in the navigation of the St. Lawrence, and an improved system of navigation law, Canada would share, to a great extent, the carrying trade of the world, and our Confederacy would be enriched by the trade which would pass through our territory on its way to the ocean.

All of which is respectfully submitted.

ROBT A HARRISON, M. P.

Toronto West, Ont., Chairman.

June 14, 1869.

GRAND RAPIDS & INDIANA RAILROAD.—There are now forty three continuous miles of this road completed, viz: from White's Plaster Mills, three miles south of Grand Rapids, to a point forty miles north of Grand Rapids and about fifteen miles south of Big Rapids, the county seat of Mecosta County, a thriving town on the Muskegon River.

In addition to the twenty miles of iron laid from Grand Rapids to Cedar Springs in 1867, iron for fifty-one miles of track was bought a year ago, and twenty-seven miles of it is yet unaid. The road will be completed to a point five miles north of Big Rapids during this year. The completed road will then have earned an absolute title to about 112,000 acres of the land grant. There is also one mile of iron laid at Kalamazoo, and the greater part of the line between Kalamazoo and Grand Rapids, 49 miles, is ready for iron. From Fort Wayne to Kalamazoo, 92 miles, the principal work to be done is between Fort Wayne and Kendallville, and there is nothing in the nature or condition of the work to prevent the road being opened from Fort Wayne for two hundred miles before the first day of January next, by which time the Cincinnati & Indianapolis line via Muncie will be open for business. The lumber which will rapidly accumulate on the sixty miles north of Grand Rapids will find its principal market at Fort Wayne, and on the lines of railway uniting with Fort Wayne, and every consideration of interest, therefore, calls for the opening of the road to Ft. Wayne at the earliest possible day. The public expectation demands it, and we are

assured that its completion here this year is fully determined upon.

The line of the Grand Rapids and Indiana road is the shortest from Grand Rapids to Fort Wayne, and will draw to it a good share of the East bound trade and travel of Western Michigan up to Traverse Bay and Mackinaw, and it is this fact which has made the east and west roads across Michigan hostile to the Grand Rapids & Indiana road, and stimulated the efforts of the Michigan Central Company to cripple and destroy it; but sustained by the interest and strength of the Pennsylvania Railroad Company, it will soon become a new element and power in the railway system of Michigan, and prove of immense value to that State, especially in the development of the western part of it north of Grand Rapids.—*Fort Wayne Gazette.*

A TUBULAR RAILWAY BETWEEN ENGLAND AND FRANCE.—The newest of the new plans for connecting England with France by railway is that of a submerged iron tube, to be supported at a depth of about 50 feet below the surface of the water by iron trestles, the feet of which will rest upon the bed of the straits. The tube is to be in its outside diameter 22 feet 6 inches, and with a view of giving it sufficient strength it is to be of cast iron, 8 inches in thickness. Its length between each pair of legs or supports is to be 300 feet and the weight of each of these sections 3,000 tons. Each of these lengths is to be made up of 8 segments of 37 feet 6 inches, and these are to be firmly bolted together by means of steel bolts passing through internal flanges. Each segment will be made water-tight by a bulkhead, and will be lowered until it is brought into exact position with the portion previously fixed, and when made fast by the bolts the workmen will pass on the next segment. The ventilation of the tube is to be provided by stationary steam power at one of the entrances to the tube, which will force a sufficiency of air through a channel constructed along the inner roof of the tube to a point about midway of its entire length, where it will be discharged and force itself to either end.

Citizens of Lansing, Dansville and St. Johns, Michigan, are consulting with the people of Toledo, Ohio, as to the construction of a road from Manchester, on the Michigan Southern, north, crossing the Michigan Central at Chelsea, 22 miles east of Jackson, and thence to Lansing and through St. Johns, on the Detroit & Milwaukee, to St. Louis and Mt. Pleasant, to the north line of Isabella County. The portion of the line north of Lansing has an organization with the requisite five per cent. of stock paid in. Like steps will at once be taken on the portion south of Lansing. The distance from Toledo to Lansing by the proposed line will be 100 miles, with about 50 miles to be built; and that from Lansing north 80 miles; making the total distance from Toledo to the north line of Isabella County 180 miles.

The contractors for laying of the iron on the Fort Wayne, Muncie & Cincinnati Railroad will commence laying on this road in a few days, and expect to have the road in running order between Fort Wayne and Bluffton, twenty six miles, by the 1st of September. The contract for grading and preparing the road-bed for the middle division has been given to C. Boswer & Co. The company expect to have the entire road completed by January 1, 1870.

BLUE RIDGE RAILROAD.



THE ATTENTION OF CONTRACTORS IS INVITED to the work of completing the Blue Ridge Rail Road in South Carolina, from Anderson, South Carolina, to Knoxville, Tennessee, a distance of one hundred and fifty-two miles to build.

The Executive Committee of the Board of Directors are prepared to enter into negotiations with responsible persons, who may desire to undertake the work.

Payment will be made in their first mortgage (7) per cent. bonds, principal and interest payable in coin, having twenty years to run, secured by the guarantee of the State of South Carolina, for the punctual payment of both principal and interest. The mortgage covers unencumbered property of the Company, which cost three and a quarter millions of dollars in gold, and embraces fifty miles of road complete and in running order.

Detailed Estimates, Plans, Profiles and Specifications will be ready for inspection JUNE 1, 1869. Meanwhile, approximate quantities and other information concerning the work may be obtained by application to COL. JAMES P. LOW, the Chief Engineer of the Company, or to the undersigned, at Columbia, South Carolina.

R. K. SCOTT,

Chairman of Executive Committee.

N. B.—The time for OPENING THE BIDS for the construction of this Road, is fixed for the 8th day of July next, at 12 M., at Columbia, S. C.

Bids will be received by the Executive Committee up to that date.
8-7-9, it

PITTSBURG & CONNELLSVILLE R. R.

ENGINEER'S OFFICE, PITTSBURG & CONNELLSVILLE R. R.,
PITTSBURG, June 3, 1869.

The graduation, masonry and ballast, upon the following Sections of the Pittsburgh & Connelville Railroad, have been allotted, by the President and Directors of the Company, to the parties named below in connection with the same, viz:

To Ralph James & Co.—Sections 67, 68, 69, 70, 71, 72, 73, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105.
To John Donaghue & Brothers—Sections 107, 113, 114.
To Meyer, Brodhead & Co.—Sections 113, 114, 120, 121, 122, 123, 124, 125, 126, 127.
To Dewees & Clark—Sections 118, 119.
To Patrick Kesting—Section 108.
To John Wilhelm—Section 109.
To Edward Kerns & Brother—Sections 131, 132, 137.
To Bracken & Fitzpatrick—Section 133.
To B. B. Gonder—Sections 134, 135.
To Alexander B. Buchanan—Section 136.
To P. H. Howley—Section 138.
To George W. Harrison—Section 139.
To Nath in Shipley—Sections 141, 142.
To Manfull & Ross—Sections 77, 78, 79.

The remaining 35 sections, between Connelville and Cumberland, having been contracted for previously, the whole line of 86 miles, between those points is now under contract to responsible parties, and there will be ample and steady employment for labor thereon during this year and the next.
BENJ. H. LATOBE,
24-6-9-2t. Chief Engineer.

MISSISSIPPI RIVER RAILROAD.

To Contractors.

Sealed proposals will be received by the undersigned, at the office of the Company, No. 450 Main Street, Memphis, Tennessee, until 12 o'clock M., on the

20th day of July, 1869.

For the clearing, graduation, masonry, bridging and cross-ties necessary to complete the above road from Memphis to Covington, about thirty-six miles, ready for the iron rails. A large portion of the work is heavy and well worthy the attention of contractors, as it is the intention of the Board to place the entire road to Cairo under contract as soon as the surveys are completed.

Proposals may be made for cash, or for county bonds, or for part cash, county bonds and stock.

Plans, profiles and specifications are now ready for inspection at the Company's office, by application to Thos. H. Millington, Chief Engineer, from whom all necessary information may be obtained.

Proposals will be received for the whole work, or in divisions. The right is reserved to reject any and all bids not deemed satisfactory.

[Signed]
24-6-9-3t.

A. S. MITCHELL,
President Mississippi River R. R.

T. F. Randolph,
MANUFACTURER OF
MATHEMATICAL INSTRUMENTS,
SURVEYOR'S COMPASSES, TRANSITS, LEVELS,
DRAFTING INSTRUMENTS, &c.,
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COUPON TICKET CASE.

BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO.	OF FORMS.	PRICES.	SIZE NO.	OF FORMS.	PRICES.
1	64	\$37	11	64	\$38
2	96	40	12	96	42
3	144	46	13	144	48
4	192	54	14	192	57
5	256	62	15	252	65
6	320	70	16	320	75
7	400	80	17	400	85
8	500	90	18	480	95
9	600	100	19	600	110
10	720	115	20	700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms and also with working plans, if desired.

BACON & EVERINGHAM,
Milwaukee, Wis

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J. M. LUNT, Sup't, C. & I. C. R. R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C. H. & D. R. R., Cincinnati.
J. H. WELLER, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati.
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton.
O. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., Indianapolis Aug 2, 1891.]

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2 Through Lightning Express Trains for New York, Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6:15 a.m.	7:10 p.m.
" Dayton.....	8:35 " "	9:30 " "
Arrive West Salem.....	1:50 p.m.	4:53 a.m.
" Leavittsburg.....	4:55 " "	7:35 " "
" Meadville.....	7:35 " "	11:10 " "
" Susquehanna.....	7:48 a.m.	11:29 p.m.
" Paterson.....	2:25 p.m.	6:03 a.m.
" New York.....	3:15 " "	7:00 " "
" Boston.....	5:45 a.m.	4:45 p.m.

Sleeping Coaches on Night Trains the entire distance between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday night instead of Saturday night. All other Trains leave Daily, Sundays excepted.

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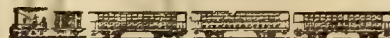
Apply in Cincinnati at New Depot of Cincinnati, Hamilton and Dayton Railway; or at northeast corner of Broadway and Front streets, and at No. 80 Fourth street, nearly opposite Post Office. Also at any of the principal Railroad and Steamboat Offices in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. RUCKER, Supt.

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—OF—

NEW-JERSEY.



On and after Monday, May 21, 1896, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a.m. and 18:00 p.m. On Sundays, one Express Train at 8:00 p.m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change of cars to Chicago or Cincinnati, and but two to St. Louis. Passenger front 1/2 East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS TO NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p.m., Pittsburg 12 night.

9:00 a.m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 4:30 p.m. Without change of cars from New York to Harrisburg.

8:00 p.m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a.m. next day.

3:00 a.m.—EXPRESS TRAIN from the West, leaving Pittsburg at 4:20 p.m.; passes Harrisburg at 3:00 a.m.; Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at 7:09 a.m. Through cars from Pittsburg to New York.

9:05 a.m.—FAST LINE, from the West, leaving Pittsburg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Reading at 10:52 a.m.; Allentown at 12:02 p.m.; Easton at 1:11 p.m. Through cars from Pittsburg to New York.

7:25 a.m.—WAY TRAIN, from Harrisburg, passing Reading at 10:40 a.m.; Allentown 12:30 p.m.; Easton at 1:35 p.m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p.m.

2:10 p.m.—FAST MAIL, from the West, leaving Pittsburg at 3:10 a.m.; passes Harrisburg at 2:10 p.m.; Reading at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at 7:20 p.m. Through cars from Harrisburg to New York. Arrives in New York at 10:45 p.m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7:00 A. M.	9:10 A. M.
Springfield & St. Joseph Ex.....	12:00 P. M.	4:30 P. M.
St. Louis & Chicago Ex.....	4:55 P. M.	12:15 A. M.

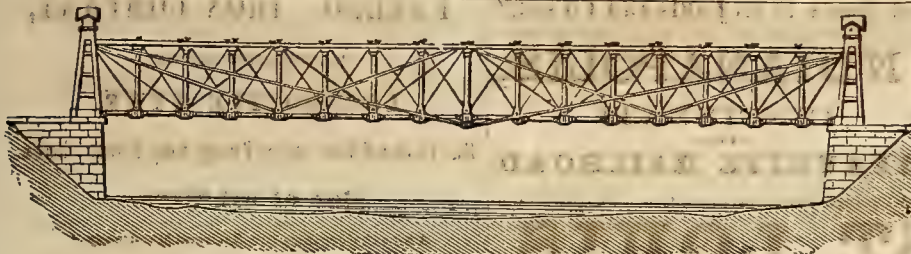
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5:15 P. M.	5:05 A. M.
Harrison Accommodation.....	10:10 A. M.	2:25 P. M.

Through Tickets can be obtained at the Burnet House, Spencer House and Gibson House offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.



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In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail and work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty six years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention paid to the strength of the machine in the plan and finish of all the details. Our long experience and opportunity of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings, and every article pertaining to the repair or renewal of locomotive Engines.

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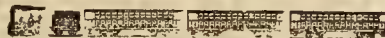
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GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

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BALTIMORE,
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NEW YORK, and
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WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**

From Cincinnati to **Baltimore** and but **ONE**
 or Columbus to **CHANGE** to
Philadelphia and New York.

Ask for **TICKETS** and
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J. L. WILSON, Master of Transportation.
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Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Rich- mond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....	.....	6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run **SEVEN MINUTES FASTER** than Cincinnati time.

For all information and through tickets, please apply at
 the old office, south-east corner of Broadway and Front; Bar-
 net House Office, corner Vine and Baker streets, and at the
 respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
 Omnibus call for passengers.

JANUARY 5th, 1868.

*Cincinnati to St. Louis Without
 Change of Cars.*

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph,
 Jefferson City, and all points on the Lower Mis-
 sissippi River, and on the the Illinois
 Central Railroad.

RAINS RUN AS FOLLOWS:

	Morn. Ex.	Even. Exp.	Seymour Acc.
Leave CINCINNATI, 7 40 a.m.	10 10 p.m.	4 00 p.m.	
Arrive BEYMOUR, 12 00 m.	2 00 a.m.	8 10 "	
Leave " 12 20 p.m.	2 10 "		
Arrive VINCENNES, 5 15 "	6 35 "		
Leave " 5 20 "	6 40 "		
Arrive ODIN, 9 35 "	10 30 "		
Leave " 9 45 "	10 40 "	6 30 a.m.	
Arrive SANDOVAL, 9 55 "	10 50 "	6 40 "	
Arrive ST. LOUIS, 1 00 "	1 30 p.m.	9 40 "	
Trains Arr. at C. O'H, 6 10 a.m.	11 30 p.m.	12 00 m.	

For tickets, or information apply at Offices, 132 Vine
 Street, Corner Front and Broadway and at Depot, Foot
 Mill Street.

C. E. FOLLET Gen. Passenger Agent
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 General Superintendent

Best Route to St. Louis and Chicago

INDIANAPOLIS,
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LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,
CAIRO,
CHICAGO,

Memphis, New Orleans, Springfield, Quincy,
 Keokuk, St. Joseph, Des Moines, Omaha
 And all Rail and River Towns and Cities in the West,
 North west and South-west.

5 THROUGH TRAINS DAILY,
 (Sundays excepted), as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express.....	7.00 am	10.50 pm
Indianapolis and Cairo Express.....	6.30 am	2.30 pm
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and
 Chicago.
 Elegant Sleeping Cars on all night trains.
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	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.10 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.10 pm

Through Tickets can be obtained at the Burnet House
 Office, corner of Third and Vine; River Office, corner of
 Walnut Street and River; and at Depot, corner of Plum
 and Pearl streets. The splendid Passenger Depot of the
 I. & C. Railroad is about a mile nearer the business center
 of the city than the Depot of any other railroad, and with-
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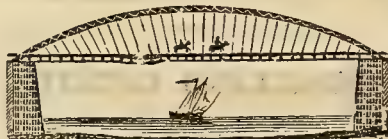
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LOCOMOTIVE WORKS,

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Rebuild and Repair Locomotives.

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 Railroad, near the center of the State, possess superior
 facilities for forwarding the work to any part of the coun-
 try without delay.

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 ESTABLISHED 1821.

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Flues—from 1 1/2 to 10 inches outside diameter, cut
 to definite lengths.

Wrought Iron Welded Tubes—from 1/2 inch to
 8 inches inside diameter, with screw and socket con-
 nections, for Steam, Gas Water, or other purposes, and fit-
 tings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong
 and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1 1/2 to 24 inches in
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 Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West, 7.35 A. M.; 9.20
 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
 P. M. (Express)

SUNDAY TRAINS.—Leave Philadelphia for Baltimore
 at 4.15 A. M., and 11.00 P. M. Leave at
 Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave
 Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD,
T. WRIGHTSON. } Editors

CINCINNATI:
THURSDAY, JULY 15, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

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One square, single insertion..... \$ 1 00
“ “ per month..... 3 00
“ “ six months..... 12 00
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“ “ per month..... 10 00
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“ “ per month..... 25 00
“ “ six months..... 110 00
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WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

ERIE, AND ATLANTIC & GREAT WESTERN.
Morning Express leaves 6:00 A. M.; arrives in New York 3:15 P. M., next day.
Fast Express leaves 9:15 P. M.; arrives in New York 7:00 A. M. second morning.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	3:15 P. M.
Fast Line.....	4:00 P. M.	10:00 P. M.
Lightning Express.....	10:00 P. M.	6:00 P. M.

MARIETTA AND CINCINNATI.

Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:20 A. M.
Hillsboro Accommodation.....	2:40 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:55 A. M.

CINCINNATI, HAMILTON AND DAYTON.

Eastern Express (A. & G. W.) ..	6:00 A. M.	5:25 P. M.
do do do ..	9:11 P. M.	6:00 A. M.
Toledo, Detroit & Canada.....	6:15 A. M.	10:25 P. M.
do do do ..	7:00 P. M.	7:25 A. M.
Lima, Ft. Wayne & Chicago.....	6:15 A. M.	10:25 P. M.
do do do ..	2:30 P. M.	6:40 P. M.
do do do ..	7:00 P. M.	7:25 A. M.
Sandusky, Cleveland & Buffalo..	6:15 A. M.	6:40 P. M.
do do do ..	7:00 P. M.	10:30 A. M.
Connersville & Indianapolis.....	6:15 A. M.	10:25 P. M.
do do do ..	2:30 P. M.	4:15 P. M.
Connersville & Newcastle.....	6:00 P. M.	10:20 A. M.
Hamilton, Eaton & Richmond ..	6:15 A. M.	10:25 P. M.
do do do ..	5:00 P. M.	10:25 A. M.
Hamilton Accommodation.....	9:30 A. M.	8:05 A. M.
do do do ..	6:00 P. M.	6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION

Connersville, Rushville and Indianapolis Mail.....	6:15 A. M.	10:30 P. M.
St. Louis and Indianapolis Exp ..	2:30 P. M.	4:15 P. M.
Cambridge City and Newcastle ..	6:15 A. M.	10:30 A. M.
Cambridge City and Newcastle ..	6:00 P. M.	10:25 P. M.

CINCINNATI, SANDUSKY & CLEVELAND.

Day Express ..	7:00 A. M.	7:00 P. M.
Night Express ..	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	6:00 A. M.
New York Express.....	10:00 P. M.	5:00 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

St. Louis & Cairo Express.....	6:30 A. M.	8:45 A. M.
Springfield Express.....	3:40 P. M.	3:48 P. M.
St. Louis Lightning Express.....	11:00 P. M.	1:15 A. M.
Lawrenceburg Accommodation ..	10:00 A. M.	2:31 P. M.
do do do ..	4:45 P. M.	8:00 A. M.
Franklin, Martinsville & Gosport	6:30 A. M.	3:48 P. M.

VIA WHITE-WATER VALLEY.

Chicago & Cambridge City Express.....	7:00 A. M.	10:00 A. M.
Harrison Accommodation.....	6:05 P. M.	6:42 A. M.
Chicago and Cambridge City.....	6:30 P. M.	10:15 P. M.

OHIO AND MISSISSIPPI.

For St. Louis, Cairo ..	7:00 A. M.	6:00 A. M.
Evansville and Louisville.....	5:10 P. M.	9:00 P. M.
Only Sunday trains are 5:10 P. M., leaving, and 6 A. M. arriving.	0:15 P. M.	11:15 P. M.

KENTUCKY CENTRAL

Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:15 P. M.	8:55 A. M.

Cincinnati Southern Railway.

CORRESPONDENCE.

EDITORS RAILROAD RECORD:—In the leading article of the RAILROAD RECORD for July 1st, upon the Cincinnati Southern Railway, there seems to be manifested a disposition to further discuss the subject of the territory to be made tributary to Cincinnati by the Southern Railway, as well as a misapprehension on the part of the writer as to the best route to secure the trade of the South. The article says:

"Cincinnati is nearer to Charleston than to any point on the ocean from Norfolk to the the Rio Grande, but is not nearer to Mobile or New Orleans than St. Louis or Louisville. Hence it is at Charleston, and in the direction of Charleston only, that Cincinnati can secure the trade of the South without any successful competition."

With all respect to the RECORD it seems to me that this is a decided case of *non sequitur*. A seaport, like Charleston with daily lines of steamers and sailing vessels to the great commercial centers of New York, Baltimore, Philadelphia, Boston, &c., from and to which all kinds of manufactured products and raw materials can be and are transported by water at rates far below Cincinnati competition by rail, strikes me as being the very last place where "Cincinnati can secure the trade of the South without any successful competition." Add to this the fact that from Charleston the shipments from the eastern seaports are distributed by rail to the interior; and it will, I think, appear manifest that the only territory in the South where Cincinnati can secure trade without any successful competition is where her rates of freight on all rail shipments with no transfer fall below the rates on shipments by water from New York, Baltimore, Philadelphia, &c., to Charleston, and thence by rail to the interior. This section of territory is the Central South, which embraces the great cotton producing States and can only be reached through the system of railroads centering at Chattanooga, by the Air Line from Cincinnati to the latter City.

Cincinnati does not want a seaport, for she has in Baltimore a more convenient seaport than any one more distant can be for what European exports and imports she may have. What Cincinnati does want is to reach the Central South, where alone she can compete advantageously with the Eastern seaports on one hand and St. Louis and Louisville on the other. These facts were fully developed in the recent discussions before the Board of Trade and were mainly influential in bringing the City Council to decide upon Chattanooga as the terminus of the Southern Railroad.

The main trunk should be an air line to Chattanooga. One of its first auxiliaries will be the Knoxville and Charleston line joining the main trunk near the Tennessee line and fur-

nishing a channel for Cincinnati to form commercial relations with the South and East. Another will be a line extending from the trunk via Sparta and Tullahoma to the Memphis and Charleston Railroad giving a connection with the extreme South-west through the States of Mississippi, Louisiana and Texas. (This is in conflict with the tenor of the RECORD's article, to wit: that no trade can be expected by Cincinnati from west of Chattanooga, but it is only a few days since a convention was held at Guntersville, Ala., to secure this connection by private enterprise; which shows the anxiety of even the extreme South-west for the Cincinnati connection.) While by the roads radiating from Chattanooga an intimate commercial union will be established with the whole Central South, whose people are now anxiously awaiting the fruition of their hopes for such a union.

The terminus of the road has been settled and these discussions have nothing to do with that question, but it seemed to me that the people of Cincinnati would be doing violence to their own interests by courting too assiduously the Charleston connection where they will meet New York, Philadelphia, and other eastern seaports upon their own territory, and neglecting the great Central South—the grandest region yet waiting for commercial conquest—whose people are now by every manifestation of public opinion imploring Cincinnati, by the construction of the air line to Chattanooga, to consummate that union of interests for which they were destined by nature.

This must be my apology for commenting upon the article in the RECORD and for requesting the publication in your columns of these remarks.

WM B. GAW.

Chief Engineer Chattanooga and Cincinnati Railroad. Superintendent Tennessee River Improvement.

CHATTANOOGA, TENN., July 7, 1869.

Cincinnati Southern Railway.

WASHINGTON, D. C., July 10, 1869.

Editors of the Railroad Record.

GENTLEMEN:—The vote of Cincinnati on the Southern Trunk Railroad assures us that she will soon express herself emphatically *in action* in reference to that road, the most important in its length in the world. I send you the following from the *San Diego Union*, of June 23, 1869:

TUCSON, A. T., June, 23, 1869.

Editor *San Diego Union*:

Knowing that you have at all times endeavored to convince the people of the great advantage of a railroad on the 32d parallel, we have taken the liberty of sending you a specimen of coal found in the greatest abundance directly on the 32d parallel in New Mexico. The specimen of coal is considered the best in the United States. As to quantity, there is sufficient to run the entire road for-

ever. It is just about half-way between the town of Memphis, Tenn. and San Diego, Cal.

We send you this, hoping you will find it of some service to you in advocating the much needed railroad on the 32d parallel. We are long since convinced that no other road can be built as cheap as this road, nor will any other road have the advantages of climate, &c., that this road will have.

Directly on this route, in New Mexico, you will find in the White Mountains, timber of the very best kind, sufficient to build the entire road. This fact has been entirely ignored by former surveys, for some cause or other. At no distant day, when it comes down to the matters of dollars and cents, this road will be built, and then, and not until then, will those capitalists, that appear to be blind *now*, open their eyes to see the error they have committed.

Very Respectfully,

TULLY & OCHRA.

The coal sent us was a very fine specimen of anthracite coal.—ED UNION

The preceding is highly important. Cincinnati, now certain to rise to a first class city, will ultimately have highly valuable interests connected with the Pacific Railroad on the 32d parallel.

I congratulate you, that the efforts, so great and unsurpassed, which you have made in favor of the Cincinnati Southern Railroad, now approach a glorious consummation.

W. A.

The Cincinnati Southern Railway.

The recent election held in Cincinnati to determine whether or not the great Southern railway from that city to Chattanooga should be built, resulted in an overwhelming vote in favor of the Road. For the railway more than fifteen thousand votes were polled, and only fifteen hundred against it. More than half a full vote was polled, which shows a great popular interest in the enterprise; since many persons remained away from the polls, feeling certain that their votes were not needed either to carry or defeat the measure. The fact that under the circumstances so heavy a vote was given shows the deep interest and remarkable unanimity of the people in regard to a Southern connection. We are not without hope that the Blue Ridge Railroad is to be benefited by this action of the Cincinnati people, although the connection with that Road is not so direct or certain as its friends were led to believe. Yet, the enterprising business men of that city will not allow this important link to be neglected, and all the immense advantages of a direct route to Charleston be lost to their manufacturers and grain-producing farmers. In the course of time, their aid and assistance must be generously tendered, but it is highly probable that before that time arrives the struggles and difficulties of the Blue Ridge corporation will be over. And then, as corporations are soulless, it will require a mathematical demonstration to induce the advantages and business resources of this Road to flow into the channel of trade for Cincinnati. Other influences may possibly gain the ascendancy, and much be lost to the denizens of Porkopolis.—*Anderson Intelligencer*.

Cincinnati expects to make a close connection with the Blue Ridge Railroad, and to give and take all the advantages that are to flow,

or has ever been expected to flow from such a connection. The fact of Cincinnati having decided that the terminus of the great trunk line of railway which she proposes to construct shall be Chattanooga, by no means prevents a "close connection" with the Blue Ridge Railroad. Indeed, it will require, in all probability, but "a mere switch" to complete the "all rail" line from Cincinnati to Charleston, and the track on the "switch" will be laid long before the Blue Ridge road is finished. So don't have any fears, but push on the work on the Blue Ridge to Knoxville.

PETERS' MUSICAL MONTHLY for July is received, and is really one of the best they have ever issued. It contains 34 pages of Music embracing 13 new and choice selections, any one of which is worth the cost of the number. J. L. Peters & Co, of New York, the proprietor of the Musical Monthly, "did a good thing," both for themselves and the music loving public, when they commenced the publication of this work.

WATER.

OUR DRINK.

"So long as the cooling and bracing months of winter are upon us, but little heed is given to the quality of acqua which is furnished us, but when summer, with its steaming, reeking streets, and its concomitant sickness puts in an appearance, an unpleasant realization is brought to every one that our water is not just the thing. It is very costly, and very nasty, and very filthy, and very unsatisfactory, and there seems to be a general disposition to neither think or talk about it. But when organized capital, with such energy and public spirit at its head as is possessed by Mr. Keck, proposes to give us whisky manufactured from garbage and street sweepings, we presume we will be excused for putting in a remonstrance against the water. Our public stomach has never felt a season of complete repose since the unpleasant disclosures made at the time of the burning of Nash's distillery, when it was demonstrated that the pelucid stream known as Deercreek, was in the habit of contributing its delightful sewerage for the delectation of the city through the present expensive and highly ornamental water-works. It was serious enough to know, prior to that time, that our daily drink contained the washings and drainings of a village adjacent to and extending three miles above the city pumps, but this last fact startled us into some degree of anxiety and the problem of fresh water became highly important and was much talked of. One of the plans proposed in that hour of solicitude was that of bringing a supply over the Kentucky shore from a point some miles up the river, beyond the reach of the contamination of the city. The matter was vigorously agitated for a while, but like everything else, it soon subsided, and we remained submissively joined to our disgusting Deercreek. We have only to say, that the construction of the new bridge across the river between this city and Newport, renders the proposed plan referred to quite feasible, and it only remains for genius to more fully develop it. Our present outlay for water is enormous, and the return is by no means satis-

factory. So long as our whisky remained in a manner pure, there was no urgent demand for a good article of water. But we never can withstand garbage whisky in conjunction with our filthy and unpleasant water, and it is high time that some plan was being devised to save us from premature graves."

We thank the *Enquirer* for the above. If ever there was a necessity for a great public work, connected with any city of the world, it is a water works for Cincinnati. Everybody knows it—everybody admits it—none more freely than do the water works officials.

What then is the difficulty in the way? Is it because the water—pure water—can not be obtained; or is Cincinnati too poor to pay for what she can not get along without, or is it something else?

Prof. James P. Kirkwood, one of the most eminent hydraulic engineers of this country, was employed by the "Cincinnati Water Supply Commission, of 1865," to make surveys and report the result of his labors, this was that no water could be obtained by Cincinnati that was as good as the water of the Ohio river, obtained above the contaminating influences of the city's sewerage and the Little Miami river.

There are but two ways of obtaining water from this point. First it can be obtained by putting the pumping works—for in any event it will have to be pumped—on the Ohio side of the river, on the alluvial bank above the mouth of the Little Miami, and just below the town of California. Here there is no ground adapted to the purposes of a reservoir nearer than from three to four miles, and the water would either have to be forced that distance through the conducting pipe, or a syphon tower constructed at the pumping works of sufficient altitude above the level of the reservoir, giving sufficient fall to enable the water to flow into it.

There are several objections to this plan. *First* the location on the Ohio side is on alluvial bottom. *Second*, the bed of the river is an alluvial deposit for two-thirds the distance across, and in low stages of water is more or less exposed. This difficulty, however, could be surmounted by extending the feed pipe over to near the Kentucky shore, thus avoiding the sewerage of California, as well as the warm, fetid water of the shoal bank. *Third*, the distance of the pumping house from the reservoir. *Fourth*, there will be the same difficulty, although less in degree of carrying the water across the Little Miami river, on the Ohio side, that there would be in crossing the Ohio river from works on the Kentucky side. *Fifth*, the greater cost of suitable grounds for a receiving reservoir. *Sixth*, it is impossible to obtain ground on the Ohio side of the river, naturally adapted to the purpose, that would afford basins of sufficient size to meet the wants of either the Cincinnati of the future, or even the present necessities of the city.

On the other hand, by the construction of works as we have proposed on the Kentucky side of the Ohio river, the reservoirs will be embraced within three miles of the present water works; natural, land-locked basins already exist, of sufficient capacity to supply the city when it has two millions, or more, of inhabitants. The land can be procured at about one-tenth what it would cost on the Ohio side, and is adapted to the purpose for which it is wanted.

At the pump house, on the Kentucky shore, three and one-half miles from the present works, is obtainable the purest water within the reach of Cincinnati, being the purest even in the Ohio river, below the Big Sandy, as the river for forty miles above this point passes over a bed of sand and gravel. The reservoir, from which pure, sedimented water only is to be drawn, will not be more than two miles from the reservoir now in use.

There are but two objections that we have ever heard urged against the project. *First*, that the reservoir as proposed on the Kentucky side of the river is *too high*, making it necessary to pump a large portion of the water used two hundred feet higher than is sufficient to meet the wants of the lower plain of the city. *Second*, that the works will be in another State. On this point we remarked in our issue of June 11, 1858: That "there is but one other point to which we will refer, and then close. The Works, as proposed, are located in another State. A broad and liberal charter has been granted by the State of Kentucky for this very purpose; and the well known public spirit of the corporators, is a guaranty that it is at the service of the city of Cincinnati. If, upon experience, however, further legislation is deemed necessary, no one will question but that it can be obtained. The imperative necessity for our neighboring cities of Newport and Covington to obtain a supply of water, and their consequent interest in the success and permanency of this great work, is alone sufficient to secure the continued favorable consideration of the Legislature of the State of Kentucky. In addition to which, however, vested rights would be acquired under the charter, precluding the imaginary "somethings that might occur," which is the only argument that we have ever heard against the construction of the proposed works."

The question of cost, we regard as of minor consideration; and in the language of a high city official, "Cincinnati can afford to pay any sum to get pure water, and plenty of it."

For a more specific detail as to the high of different localities, and a more comprehensive view of the ground proposed to be occupied, we beg to refer to the Report and Map of Mr. PHILLIPS, which we republish for the purpose of refreshing the minds of our citizens:

REPORT OF R. C. PHILLIPS, Esq., *Civil and Topographical Engineer.*

CINCINNATI, May 28, 1868.

T. WRIGHTSON—*Dear Sir:* Herewith please find a sketch of the Ohio river from the present Water Works to a point opposite the town of California, together with some important points in the city, as well as in Kentucky. This sketch is drawn to a scale pretty accurately, so far as the known points are concerned; the location of some of the smaller streams and other points at a distance from the river in Kentucky are not so reliable, being from recollection, and hasty sketches and bearings of known points on the Ohio side.

The actual height of the points proposed to be used as embankments for the reservoir on Mr. KINNEY's land, is 390 feet above low water in the Ohio, and if the mouths of the two valleys shown were filled to this height, the surface overflowed thereby would be about 50 acres, and the greatest depth nearly or quite 200 feet. If water was filled to this level, it would flow to points so near the summit or watershed between the valleys thus filled and those falling into Taylor Creek, that the cost of cutting through would not be very great; and from this reservoir pipes could be laid down the valley of Taylor Creek in almost a right line to the present reservoir and the distance would be $3\frac{1}{2}$ miles nearly. A reservoir could be constructed in the valley of Taylor's Creek, at any required height, less than 380 feet above low water, varying in area and depth from 300 to 1,000 acres and from 100 to 200 feet in depth, into which the water from the above receiving reservoir could be drawn, and from which it could be distributed to the three cities of Cincinnati, Newport and Covington. If a line of pipe be laid from the reservoir on Mr. KINNEY's place along the line indicated above, the entire length to the present reservoir, would be about $3\frac{1}{2}$ miles, and the distance from the proposed site of the proposed pump house to the old reservoir would be $4\frac{1}{2}$ miles nearly, and to the new reservoir about $4\frac{1}{2}$ miles, while the distance from a point opposite the proposed engine house on the Ohio side, by the nearest practicable route through Ohio, would be about $6\frac{3}{4}$ miles to the new reservoir, and about $7\frac{1}{2}$ miles to the present reservoir. This line of pipe must be laid under the Miami, at or near its mouth—a task about equal to laying the other line under the Ohio. The above location of the pumping works is about as high the city as water any better than that obtained from the present works can be obtained, being only a short distance above the mouth of the Miami. The shore line on the Kentucky side is deep and rocky, while on the Ohio side it is

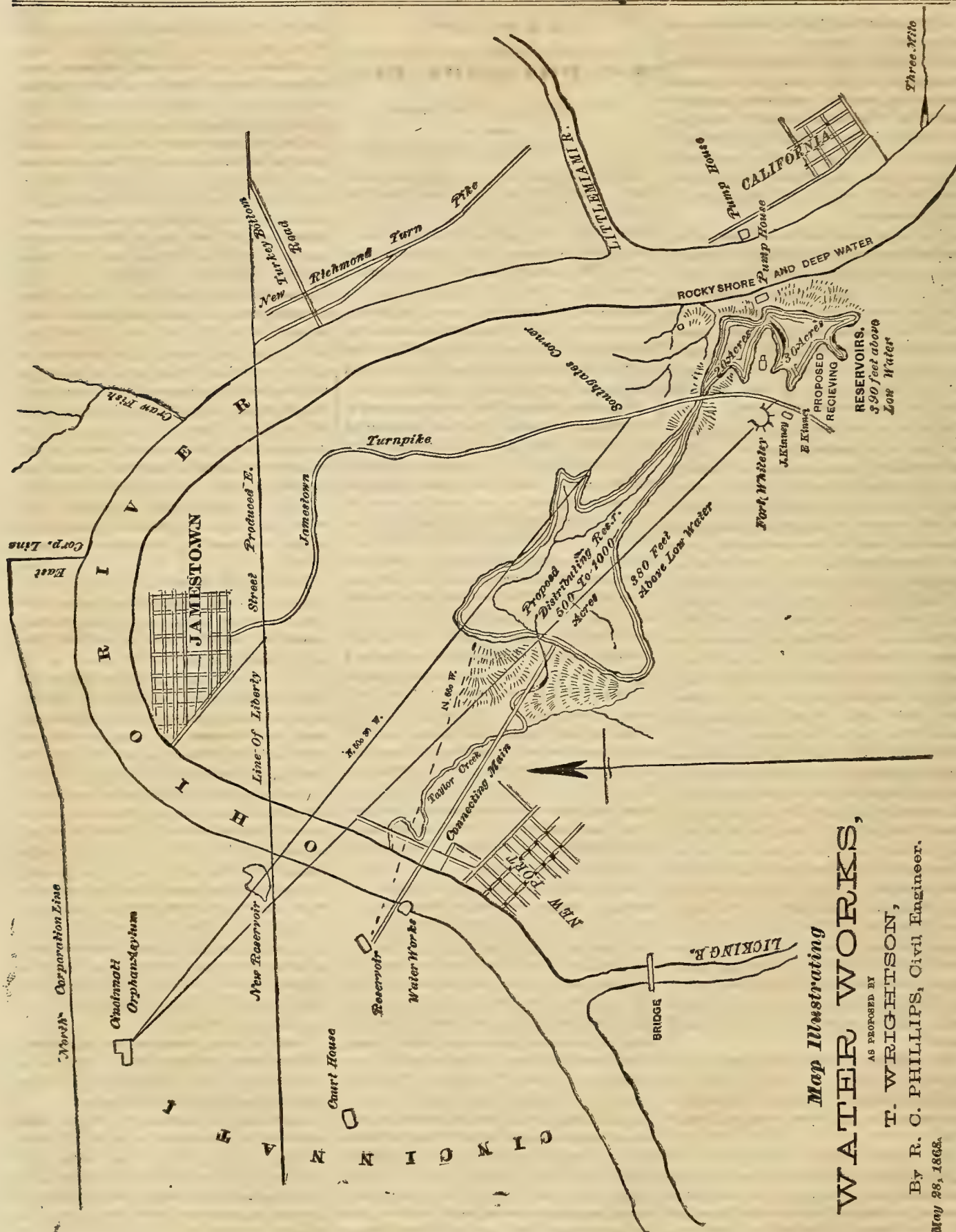
shallow, and in high water, clay, and in low water, sand bottom. If pumping machinery be placed on the Ohio side, the water must be forced through about 4 miles of pipe to a reservoir, say in Crawfish, and to an elevation of, say 300 feet, and from this by gravity about 3 miles to the new reservoir in the Garden of Eden, at an elevation of 238 feet above low water, or 64 feet above the present reservoir, or a column of, say 300 to 350 feet might be erected at the pump-house, and the water allowed to flow from that to the reservoir by gravity. In either of these cases the water would be delivered at the distributing reservoir nearly in the condition it is taken from the river, while the water pumped first into a reservoir of, say 50 acres area, and would remain in that long enough to settle almost or quite clear, while it would remain so long in the large and deep reservoir in Taylor Creek, that it would be free from all sedimentary matter, when delivered to the pipes. As regards the cost of these several plans, the land in Kentucky could be had for a much less sum than in Ohio; the difference in length of pipe is very great, and the quality of the water would be greatly improved by remaining so long in the settling and distributing reservoirs.

The proposed reservoir, if made at an elevation of 390 feet, would deliver water at an elevation in the city of, say 380 feet, in small quantities, and the following are the heights approximately of the points named in and about the city: Summit of Mount Adams 361 feet above low water; residence of Hon. G. H. PENDLETON, Price and Liberty streets, 269 feet; L. C. HOPKINS' new house, Summit and Auburn streets, Mount Auburn, 466 feet—being the highest ground in the city; Clifton avenue, opposite Judge WOODRUFF's residence, 350 feet; intersection of Clifton and Ludlow avenue, (BRYANT's corner), Clifton, 250 feet; residence of J. B. BENNETT, (formerly Judge McLEAN's), Clifton, 382 feet; the intersection of the Montgomery and Harrison roads, on Walnut hills, (about the highest point in the village), is 413 feet above low water in the Ohio, and the whole village of Avondale would be below the proposed reservoir, and could be supplied from it; the water table of the public school house in Avondale being about 344 feet above low water.

It will be seen, therefore, that a reservoir 390 feet above low water would supply all of Cincinnati and its surroundings, with the exception of a few of the highest points.

I have made no estimate of the cost of these proposed improvements, or either of them; I have simply examined the matter with reference to its practicability, and given a few of the results that would be accomplished by such a work, and some facts about distances and heights.

R. C. PHILLIPS,
Civil Engineer.



Map illustrating WATER WORKS,

AS PROPOSED BY

T. WRIGHTSON,

By R. C. PHILLIPS, Civil Engineer.

May 28, 1868.

Improvement of the Ohio.

This is not a new theme—some of the ablest civil engineers of the country have devoted much thought to it. Ten or twelve years ago a series of very able articles in reference to the improvement of the Ohio and its tributaries were published in the RECORD, from Col. CHARLES ELLET, Jr. Last year Col. W. MILNOR ROBERTS and Gen. WARREN, by the direction of the government, made surveys of a large portion of the Ohio; with suggestions for its improvements, and under their direction more or less work has been done.

There has been several methods recommended for accomplishing this very desirable result—the improvement of the Ohio. One was for vast reservoirs of water to be constructed in the mountain regions, which was to be 'let out' as the occasion required to keep up the necessary supply, for a never failing depth of five or six feet of water in the channel. Another was, to "tap Lake Erie," and draw from that source sufficient to render more reliable the navigation of La Belle Rivier. Great confidence was expressed that the small amount of water necessary for this purpose, would not seriously affect the beauty and grandeur of Niagara, and would accomplish a military result. But unfortunately for both, Lake Erie and Niagara, it would be necessary, in addition to making a cut of four hundred feet deep between the waters of Lake Erie and the Ohio, but also to make the waters of Lake Erie run up hill about one hundred feet, which we presume they would decline to do. Hence this interesting theory was spoiled.

Mr. PETER CLARK, in the New York *Tribune* furnishes the following contribution to Ohio River Improvement literature, and as we are in favor of obtaining all the light possible on this very important subject, we give it in full to our readers:

In addition to what has already been urged of the importance of the Ohio, as forming a great water line from the center of the Mississippi Valley 1,000 miles eastward, along the great channel of trade across the Continent, through which the immense commerce coming from the North and West to St. Louis may be diverted from the Gulf of Mexico to the Atlantic cities, it should be stated and kept in view, that the Ohio, being improved and made permanently navigable, the Alleghany, from Olean to Pittsburgh, would, as a necessary consequence, be speedily improved, so as to open a new water line from New York to the Ohio, through which barges could be transported from New York to St. Louis without breaking bulk; and then, through such a line, heavy tonnage could be carried for about one third the expense of railway charges. It does not weaken the force of this argument to say that flour and grain, and other agricultural products, incur great risks in passing through the warm and humid climate of the Gulf, and that therefore they will go by rail direct from St. Louis to New York. The question is, both the water line and railway being open, which mode of conveyance

will be preferred for heavy and bulky tonnage?

If it be urged that time is an important element in commercial transactions, and that therefore the greater speed of railway transit will compensate for its greater expense, it may be answered, that for travel and for valuable and light merchandise this argument will hold, but not with reference to heavy freight.

Besides, if great water lines were permanently open so as to allow the farmers of the West to be their own shippers, and consign their own products to well known houses in New York, there would be fewer middlemen between the producers and consumers; and speculators in breadstuffs would find it difficult to control the market, and make the consumers pay the greater cost of transportation by rail.

Whoever fails to comprehend the importance of canals and water lines in moving the heavy tonnage of commerce, or would discourage their construction, imposes a heavy burden upon the consumers of the great staples of provisions, and upon all the industrial pursuits of the country. Better prices to the producer and lower prices to the consumer would inevitably result from increased facilities for cheap transportation between the granaries of the West and the wharves and work-shops of the East.

There can be no gainsaying the fact that heavy and bulky freight is carried cheaper by the canal-boat than by rail, and should, therefore, be transported by water whenever it is possible to do so; and wherever this rule is violated, in the interests of large speculators in breadstuffs, the consumer pays the additional cost of transportation.

Three plans have been presented for making the Ohio permanently navigable for boats and barges drawing from four to five feet of water.

First—By a series of wing dams over the shoals and rapids of the river.

These wing dams would extend from each side of the stream towards the center, so as to contract the water into a narrower channel, and of sufficient depth for navigation. They should be directly opposite each other, or alternate upon one side and the other. They would not only deepen the water by throwing the whole volume into one part of the channel, but would also, at the same time, extend the rapids over a greater space, and so reduce the fall per mile by extending the inclined plane of the shoal or rapids. Such dam would not retard the passage of boats or barges, as there would be no locks to pass through. This mode of improvement could be made at a trifling expense, and, except at extraordinary low stages of water, would suffice to make the Ohio navigable ten or eleven months in the year, except when impeded by the ice. Very little solid masonry, if any, would be required in building such wing dams, and the abundance of suitable materials, all along the bed of the river, or in the cliffs and hill-sides through the valley, would reduce the cost to a very low figure. There are very few days in the year when there is not sufficient water in the river to float boats drawing four feet, if the water were thrown into one narrow channel, or made to pass through a chute. The river in its natural state, in low stages of water, consists of long deep pools of water, always of sufficient depth for navigation, with shoals or gentle rapids intervening, when wing dams would be required to make it permanently navigable. I am not aware that any reliable estimates of the cost of such an improvement

have been made, but the whole expense would be absolutely insignificant in comparison with the advantages certain to result therefrom. Some idea of the cost of such an improvement may be had thus. A wing dam, say 1,500 feet in length, 30 feet wide at the bottom, and 15 feet at the top, and 4 feet high, would contain 5,000 cubic yards. Suppose it cost \$3 per cubic yard to fill in these rude dams, and considering the fact that sandstone in cliffs is generally found upon one side of the river, where the shoals and rapids occur, or may be taken from the bed of the stream, this cost per cubic yard, is believed to be far too high; yet, at this rate, the cost of one wing dam would be only \$5,000. Now, suppose 300 such dams, averaging the same cubic contents, and the entire cost would be \$4,500,000! This estimate is only an approximation to the actual expense of such a work; yet, considering the abundance, proximity, and facility of obtaining the necessary materials of stone and coarse gravel for such wing dams, it is believed that there are plenty of men residing in the Valley of the Ohio who would be glad to contract for the work at \$3 per cubic yard. At this rate this improvement would cost only the trifling sum of \$4,600 per mile.

A second plan for improving the Ohio is by locks and dams. By this plan the Ohio would be converted into a vast canal, with a capacity sufficient to float the commerce of the whole continent. The distance from Pittsburgh (by the river) to Cairo is 977 miles. The whole fall is 425 feet, or an average descent of 5 inches per mile.

To overcome this entire fall would require 50 locks or pairs of locks—one for the ascending and one for the descending trade—with an average lift of 8½ feet. The pools erected by such system of locks and dams would vary in length as follows:

Between Pittsburgh and Wheeling.....	10 miles.
Wheeling and Cincinnati.....	17 miles.
Cincinnati and Louisville.....	25 miles.
Louisville and Portland.....	1 mile.
Portland and Evansville.....	42 miles.
Evansville and Cairo.....	37 miles.

This assumption contemplates the necessity of converting the river, through its whole extent, into a canal, whereas such is the favorable condition and easy flow of this noble river, in its lowest stages of water, consisting of long deep pools, that it is presumed, in order to convert it into a grand slack-water navigation, not more than one-half of the aforesaid number of locks and dams would be required.

Allowing the average cost of these locks and dams to be \$500,000 for each pair, the whole expense would be only \$12,500,000. No parallel to such a magnificent canal or slack-water navigation could be found in the world. None having so little lockage in proportion to its length. Considering the abundance of fine oak timber, and stone as before mentioned, it is confidently believed that this great work could be constructed within said \$12,500,000, or about \$12,800 per mile, to make the Ohio a vast channel of trade with ten times the capacity of the Erie Canal enlarged. If the river were thus improved, not an extra acre of land would be necessarily overflowed, and it is believed that in a sanitary point of view the whole valley would be benefited rather than injured; and as the depth of water would be all the way five feet in the channel, there would be little or no obstruction from ice during the Winter, or at any rate far less than in the natural state of the river.

Such grand results, at an expense compara-

tively so trifling, were never before submitted to public consideration, and the wonder is that this great subject has not received that careful investigation which the growing necessities of the trade and commerce of the world imperiously demand. The opening of our great Pacific Railways, and of the Suez Canal invests this great work with an increased importance. The third and last mode of improving the Ohio will be the subject of another article. P. CLARK.

New York, June 28, 1869.

Southern Pacific Railroad.

A special telegram to the *Commercial*, dated Washington, July 11th, on the state of affairs in Texas, says: "It is stated here by the friends of Governor Hamilton, that one of the main causes of the postponement of the Texas election to so late a period was occasioned by exaggerated statements made by Governor B. F. Flanders, of Louisiana, who is but lately returned from that State. They say that during the convention of Texas, Flanders, representing a large moneyed interest of New England, at the head of which was Oakes Ames, pushed through a gigantic railroad scheme, which secures millions of acres of land, and an immense amount in subsidies beside. Governor Hamilton strongly opposed the measure, and has expressed his intention of smashing it to atoms as soon as the Legislature meets. Of course Flanders knows that an early election will put Hamilton in by an immense majority, so the carpet-baggers, of Texas espouse the cause of the faction headed by Davis."

It is evident that something is intended to be done with the Southern Pacific Railroad; there appears to be two "Richmonds" in the field,—B. F. Flanders, of Louisiana and Oakes Ames of Massachusetts, representing the New Orleans and Opelousas and extreme Southern interest; on the other side is Gov. Hamilton, Gen. J. C. Fremont, and the Memphis and El Paso company. The interests and sympathies of the great middle belt of States is more directly connected with the construction of the Memphis and El Paso line, as it would meet their wants better than the other.

Atlantic and Gr. Western Railway.

A meeting of bond and debenture holders, who had deposited their securities with Messrs. Morgan & Co., under the agreement of 15th May last, was held at the London Tavern on Tuesday, to hear a statement as to the present position of the railway in connection with the lease to the Erie, and to appoint an unpaid committee to protect the interest of the bond and debenture holders. Mr. D. Chadwick, M. P., on being called to the chair, explained the position of both companies. He said he hoped, as the committee to be proposed would be an unpaid one, that there would be a greater chance of it working successfully. It would act in the common interest of all concerned, and not for any particular section of holders, and an effort would be made to get the lease with the Erie annulled, so that they might have possession of their own property once more. The object of the Erie seemed to be to get permanent possession of the Atlantic

and Great Western. They had introduced a bill into the New York Legislature for consolidating the two railways, and had also instituted certain proceedings. The lease would, no doubt, be beneficial to both parties if honestly carried out. The Rev. Mr. Watkins moved and Mr. G. W. Hastings seconded the following resolution:—"That a committee with power to add to their number, and whose services shall be honorary, be appointed, to select and appoint out of their number an executive committee to take such steps as they may deem desirable or may be advised for the protection and settlement of the claims and interests of the bondholders and debenture-holders of the Atlantic and Great Western, and with power to engage such legal assistance as may be requisite, and that such committee consist, in the first instance, of Mr. D. Chadwick, M. P., Mr. Hastings, Rev. Mr. Watkins, Mr. Brown, Mr. Thomas (Bristol), Mr. T. Matthews, Mr. J. G. Matthews, Rev. Dr. Haycroft, Mr. Curtler, Mr. H. Grierson (Darlington), Mr. Thorpe, Mr. Beckley." A discussion ensued, in course of which the conduct of the Erie was strongly condemned, and a determination was evinced to use all legal means for determining the lease. The resolution having been carried unanimously, a discussion arose upon the second resolution, which referred to the depositing of bonds, to be transferred from Messrs. Morgan & Co., to trustees on behalf of the committee, and it was explained that a necessity might probably arise for the production of the actual bonds, in order to validate legal proceedings in New York. It was ultimately arranged that the securities should be withdrawn from Messrs. Morgan, and be held by the owners at the call of the committee, if they found it necessary that they should be used in the legal proceedings. In order to provide funds it was further agreed to subscribe 1 per cent. on the nominal value of the various securities, a first payment of 5s. per share to be made at once.—*London Railway Times*, June 20.

Views of the Country by an Old Observer.

Great Western Road—Crops—Northern Ohio and its Resources—A Collision—The Hudson—New Things in an Old Place.

[From the Cincinnati Gazette.]

I left Cincinnati on the morning of the 9th inst., by the Atlantic and Great Western Railroad. This road, you are aware, goes through the most central portion of Ohio as well as the Southern border of New York. It has two great advantages; one, that you get from it the best idea of what the central part of the central section of the United States really is. It is a first rate road to see the agricultural parts of the Northern States from. Another advantage is that the cars of the broad gauge line are much the roomiest, and most comfortable of any in the country. The car I was in was over 70 feet in length, and broad in proportion, with the most comfortable seats I have ever seen. From Cincinnati to New York there is no change of cars—a comfort which every old traveler will estimate at a high value. So, over 800 miles through the richest country of the world, we continued to roll on in much greater comfort and luxury than the princes of old times could possibly have; and this gives me a very consoling and satisfactory view of the progress of mankind in substantial things. It is easy to show that

the great body of laboring and agricultural people do not have all the luxuries and elegancies of the very rich, and that there is still a struggle for subsistence. But it is still easier to show that they have much more of comfort and solid advantages than the rich and great of former ages. The Countess of Nottingham, who, three centuries ago, sat down to breakfast on salt fish and ale, would have been very glad to have breakfasted with a Cincinnati mechanic on Rio coffee and Kentucky beef. She had no such epicurean pleasure as the Cincinnatians, and was obliged to put up with very common doings. So my father, who had to pay five hundred dollars and four weeks of time to get his family to New York, would then have thought it not merely a miracle of art, but a wonder of luxury, to have gone the same journey for twenty-five dollars in thirty-two hours. It is thus, that in spite of Solomon, and in spite of all the laments over our degeneracy (which, by the way, is one of those humbugs which the old fogies in each generation like to play off on themselves), in spite of all, I say, the great masses of each generation are rising higher and higher in the scale of true civilization. I have friends who think one ought to go to Italy or France to see civilization. If their idea of civilization is correct I should advise them to go to China or Hindostan, where civilization is much older, where ruins are quite as plenty, and where they can bathe in the sacred waters of the Ganges, or worship in ancient Pagodas with as much devotion to the old and false as they can in any part of Europe. But I confess a love to the land which grows and not decays, to which men come and not depart, where, as Cowper says, liberty gives the flower of fleeting life its perfume, and where men may hope, and not despair. But, the cars are rolling on, and as fields of grain and grass pass rapidly before me, the whole land just swelling and falling enough to show the beautiful bloom of the vales; and the wide-spreading verdure of the hills, I say to myself, God made the country, man made the town. But, true as this is, it hardly gives a true idea of the case. God made man as well as country, and sent him forth upon the earth to do this very thing; to cause the earth to bloom and the towns to rise; and it is labor after all which has made this resplendent beauty of cultivated fields. Now, I have a notion to estimate, if I can (and I won't trouble you with more than a line of statistics), how much this Miami Valley of ours brings in grain. The Valley of the Miamis contains, in round numbers, 6,000 square miles. The largest crops of wheat raised were in 1850 and in 1860, an interval of ten years. I estimate that the wheat product of the Miami country is at least ten per cent. greater in breadth, and ten per cent. greater in product per acre than in any previous year. An estimate of the wheat crop of the Miami Valley made on this basin will give 7,500,000 bushels, or just about double as much as will feed the 700,000 inhabitants which the valley now contains. The crops of barley and oats are apparently as good as the wheat, and the corn, though late in getting up, looks fresh and of good color. Estimating these crops at a full average, the whole grain crop of the Miami Valley will be 23,000,000 of bushels of grain, or 40 bushels to each individual in the valley. If there be any other part of the country more productive than that I should like to be informed of it. Some persons think that the prices will be so low that the farmers will not be paid. They need not be troubled. There will be a large export demand for our

products during the coming winter, besides which all parts of the country are not grain growing. As we passed out of the Miami country into the interior of the State, the products of grain becomes visibly less. Grass begins to predominate, and when we get to the Western Reserve there is comparatively little grain produced. Now, however, we begin to see some other things, which are quite significant. The Atlantic and Great Western road, as I said, passes through the interior. We touch no lake town, and we leave the Ohio not to see it again till we arrive on its banks in Western New York, for the Allegheny is the true Ohio. As we reach Northern Ohio, we see something which, perhaps, might not be anticipated. We see that all the Northern towns are prosperous and improving very fast. We ask why, and the cause is soon quite obvious. The towns in the northeast of the State, are now enjoying the great advantage of the rapidly developing of the great coal and iron mines in that region. Cleveland has now over 100,000 inhabitants, and is becoming a great manufacturing place. It is a central point—having also a water transportation—to the iron mines of Mahoning and Trumbull counties, the coal of Summit, and even the iron and copper mines of Lake Superior. It takes the materials from all these places—manufactures—and distributes the products.

As we approach Akron I saw at once it was a thriving place. New houses were building in the suburbs, large brick factories rose before us, and on one of them was the name of C. Aultman, who has done so much credit and good to Ohio by inventing and manufacturing agricultural machines. Mr. Aultman has three establishments—one in Canton, one in Mansfield, and one in Akron. But I was particularly struck by long trains of coal cars. The coal was evidently of the best quality, and was in fact the great motive power which was animating and moving the whole section of country. The counties of Summit, Trumbull and Mahoning now produce millions of bushels of coal, and the iron of Trumbull and Mahoning is unrivalled. The county of Mahoning produced last year 57,000 tons of pig iron, and it is the best kind of iron produced in the country. The product of the Mahoning mines has doubled in the last ten years. This development of the mines in Northeastern Ohio, and the consequent growth of towns there is the broadest and strongest hint to Cincinnati. The iron and coal mines of the Ohio Valley ought to be developed to a far greater extent than they are. The Board of Trade ought to devise some means by which the freight on coal and iron, especially the last, should be reduced. The fact is that not a single railroad running out of Cincinnati is adapted to carrying coal and iron cheaply, and until there is, Cincinnati can not renew the prosperity of her manufactures.

In passing Kent, also a flourishing town, I was told there was no town there before the railroad was made. All along there was evidences of great improvements, caused by the road. When we neared Meadville the trains of petroleum began to appear. If people want to see strange phenomena in nature, I know not what they can find more singular than this apparently illimitable product of oil in this small district of Oil Creek. What made it? Where are the vast reservoirs, which feed the incessant streams of commerce from that place? All this is yet a mystery, and the geologists who tell us how this and that was made, and how long fossils have been imbedded and how long the tertiary

formations have been coming up, utterly fail to give us any account of these deposits of oil. Theories enough there are, but nothing demonstrative; and this is the great difficulty with geology—that it demonstrates nothing.

But the cars rolled on, and I attempt a sleeping car—an attempt I never was very successful in. The berths were good, and others slept; but at three o'clock I awoke from a short and disturbed repose to find we were at Hornellsville, New York. Then we rapidly passed on, descending the Valley of the Susquehanna, and then the Delaware, through very beautiful scenes. We breakfasted at Susquehanna Station, one of the few good eating places there are on our railroads. Everything was excellent, and we left the station in a decidedly more amiable mood. Good as the cars may be, and beautiful as the scenery is, I admit that some of Professor HUXLEY's protoplasm is very necessary to revive our sense of the pleasures of life. Albeit nothing but carbon and hydrogen, yet like the oxygen of the air, it seems essential. Just as we came within a few miles of our terminus we were arrested by a freight train, and had the satisfaction to find that twelve freight trains were concentrated in front! Two freight trains, near Middletown, had concluded to smash each other up, which they did most completely. I never saw a greater wreck of trains, but we got on, and sundown found us at Fishkill, on the Hudson, greeted by warm friends, and looking out on the broad Hudson, and the rock-built highlands which sentinel the land.

The first thing I noticed, was a new railroad coming through the village, and here it is to cross the Hudson—the great Boston, Hartford, Fishkill and Erie Railroad, on which the cars will roll from Boston to Cincinnati. So you, in Cincinnati, are interested in this matter. Near Boston are nine different branches of this road going to different manufacturing towns. After running through Rhode Island and Connecticut, it is to cross the Hudson here, and goods and people will pass over the same route, I hear, and over the Atlantic & Great Western to Cincinnati. So goes the car of progress, and you must get on it, at Cincinnati, if you expect to keep pace with the great world of commerce, which moves on—on—on to the setting sun. E. D. M.

FISHKILL, ON THE HUDSON, July 12, 1869.

RAILROAD AID—THE VOTE IN BAY CITY, YPSILANTI AND PONTIAC—BAY CITY, July 12.—The special election to vote aid to the Jackson, Lansing and Saginaw extension north came off to-day, and resulted in a vote of 290 for the aid and fifteen against. The amount voted is \$85,000, and it is conditioned that the road shall start within the corporate limits of Bay City, shall cross the river by a bridge, and be built at least 70 miles north, and that the line shall not, in reaching the Straits of Mackinaw, be more than 25 miles longer than an air line between Bay City and the Straits.

The receipts of the Western Union Railroad Company for the week ending June 21:

	1869.	1868.	Increase.	Decrease.
Freight.....	\$12,774 92	\$14,157 62	.....	1,382 70
Passengers.....	4,312 47	3,426 10	916 37	.....
Express & Tel.....	310 00	351 00	.....	.....
M. I.	375 00	375 00	.....	.....

Totals..... \$17,842 39 \$18,308 72 \$916 37 \$1,382 70

Receipts from January 1, to June 21:

1869.....	\$299,691 80
1868.....	\$308,609 57

Increase..... \$9,175 77

KANSAS ROADS are the subject of the following instructive *resume* by a correspondent of the *Lawrence Journal*:

"The Border Tier Road is finished to Paola and will soon reach Fort Scott. The bridge on the Galveston Railroad at Ottawa is being built, whilst the Atchison, Topeka & Santa Fe Road is being pushed south from Topeka. The Neosho Valley Road seems to be a fixed fact, and the great Neosho is to be herself again. But I notice nothing of a road southwest from Lawrence.

The Lawrence & Guaymas road seems to be in the shade; of course the Atchison, Topeka & Santa Fe Road is not going to Santa Fe. The Union Pacific up the Smoky Hill must take that route. What, then, is the policy of Lawrence, Topeka, Leavenworth and Atchison, in fact all of Kansas? It is to unite and push a railroad south-west across the Arkansas, at the mouth of Walnut, on the Little Arkansas, leave the Wishita Mountains to the right, cross Red River at the mouth of Wishita, at Red River station, thence to Fort Belross, Texas, eventually to El Paso, on the Rio Grande, Lulibetati and Fort Yuma, on the Gulf of California via San Diego to San Francisco. A branch road will be built to Guaymas and another to the city of Mexico. The Southern Pacific will be built in time, with branches connecting with the South-west Pacific of Missouri. The Memphis Road, via Fort Smith and Little Rock; another from Shreveport, with still another branch to New Orleans. These roads may center at or near Fort Belross. Kansas should stand by and work for this Southern Pacific, aid it in every way possible, only insisting upon this Kansas branch, which would open a central trade worth millions to Kansas."

DEPARTURE OF AN EXPLORING PARTY—MINNEAPOLIS, MINN., July 9—The Northern Pacific Railroad exploring party left here this morning by rail, for camp beyond St. Cloud, where the first night camp will be pitched.

Alderman George A. Brackett, of this city, an old ranger on the plains, has been appointed supply and transportation agent, and Pierre Bellmeir, the old pioneer guide of other expeditions on the route of the Northern Pacific Railroad, accompanied the party. The route will be Abercrombie, the Red River to Pembina, meeting the agent of Jay Cooke & Co., thence to the Big Bend of the Missouri, Governor Smith and a portion of the party will follow the Red River to Fort Garry. The expedition has an order from General Sherman for an escort of troops from Fort Totten above. Indian scouts also accompany the party. On its return the party will explore the route to Lake Superior, and fix the eastern terminus of the road. The junction at Superior will be made with the Oregon party now exploring toward Puget Sound. The following are the names of the party: Hon. Gregory Smith, President of the Northern Pacific Railroad, Vermont; Hon. R. D. Rice, Director, Maine; Hon. W. C. Smith, member of Congress, Vermont; Hon. F. Woodbridge, ex-member of Congress, Vermont; Rev. Dr. W. H. Lord, Vermont; Dr. S. W. Thayer, Vermont; C. C. Coffin (Carleton of the Boston Journal), Boston; E. F. Johnson, Chief Engineer, Northern Pacific Railroad, Connecticut; A. B. Bayless, New York; Mr. Holmes, Agent of Jay Cooke & Co., New York; James Colborn, Maine; Hon. W. M. Wendow, Winona; John Douglas, Winona; Gov. Marshall, of Minnesota; Hon. E. M. Wilson, of Minnesota; George A. Brackett, of Minnesota; Pierre Bellmeir, of Minnesota.

For the last ten years, says the *Tribune*, the Irish and the German immigrants arriving at this port have compared as follows:

Years.	From Ireland.	From Germany.
1859.....	32,652	28,270
1860.....	47,330	37,899
1861.....	25,784	27,139
1862.....	32,217	27,740
1863.....	91,157	35,002
1864.....	89,399	57,446
1865.....	70,462	83,451
1866.....	68,047	106,716
1867.....	65,134	117,591
1868.....	47,571	101,989

A dividend of 4 per cent free of Government tax, will be paid upon the capital stock of the Lake Shore and Michigan Southern Railway Co., including the capital stock of the late Cleveland, Painesville and Ashtabula, the Cleveland and Toledo, and the Lake Shore Railroad Companies, and the common stock of the late Michigan Southern and Northern Indiana Railroad Company, to the shareholders respectively, at the office of the Company 18 William st., N. Y., on the 2d of August next.—*Am R. R. Jour.*

Iowa will soon have four railroads connecting the Mississippi and Missouri rivers. The great central line extending from Davenport to Council Bluffs is just completed and in successful operation. Two others, one beginning at Dubuque, and already built to Fort Dodge, and the other at Burlington, will be completed in a few months. In addition to these there are now building the McGregor and Sioux City Line (to be completed to Sioux City by January 1); the St. Louis and Cedar Rapids and Minnesota Road; the Fort Madison and Burlington Road; the Iowa River Road; the Iowa Central, the Des Moines and Indianola, and the Decorah branch.

The Ionia and Lansing Railroad Company have purchased 3,000 tons of the best Wales rails, 56 tons to the yard, sufficient to iron the line from Lansing to Ionia. James Turner, Treasurer of the company, has gone to Boston to negotiate \$300,000 of the company's bonds.

The builders on the Indianapolis, Crawfordville and Danville railroad agree to make Covington a point, if she will agree to make a donation of \$80,000, otherwise they will run the road in the direction of Perryville.

An election will be held in Posey county, Ind., on the 27th, to decide the question of appropriating \$100,000 to aid in the building the Mount Vernon and Grayville Railroad.

The Charlotte and South Carolina and Columbia and Augusta railroad companies were consolidated, July the 8th, under the title of the Charlotte, Columbia and Augusta Railroad Company.

A greater number of railroads are now in course of construction in Indiana than at any time within the history of the state.

T. F. Randolph,

MANUFACTURER OF

MATHEMATICAL INSTRUMENTS,

SURVEYOR'S COMPASSES, TRANSITS, LEVELS, DRAFTING INSTRUMENTS, &c.,

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HAVING MADE RAILROAD PRINTING A

SPECIALTY,

We would respectfully call the attention of Superintendents, General Ticket and Freight Agents to the class of work we are now producing.

Bulletin Boards,

STRETCHERS,

Illuminated and Plain Show Cards

CONSECUTIVELY NUMBERED

COUPON AND LOCAL TICKETS,

Bills Lading,

Way Bills,

Blank Books,

AND ALL WORK INCIDENT TO RAILROAD OFFICES,

Got out in first-class style, and at as low rates as any establishment in the country.

SUSPENSION

COUPON TICKET CASE.

BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeleted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers, below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the longest package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO.	NO. OF FORMS.	PRICES.	SIZE NO.	NO. OF FORMS.	PRICES
1	64	\$37	11	64	\$38
2	96	40	12	96	42
3	144	46	13	144	48
4	192	54	14	192	57
5	256	62	15	252	65
6	320	70	16	320	75
7	400	80	17	400	85
8	500	90	18	480	95
9	600	100	19	600	110
10	720	115	20	700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without portings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms and also with working plans, if desired.

BACON & EVERINGHAM,
Milwaukee, Wis.

All orders addressed to us will receive prompt attention.

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BOOKSELLERS AND STATIONERS,

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BOOKS & STATIONERY AT LOWEST PRICES.

BLANK BOOKS

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BANKERS,

MERCHANTS,

INSURANCE COMPANIES,

MANUFACTURERS,

EXPRESS COMPANIES,

PUBLIC OFFICES, Etc., Etc.

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WM. MERCER, R. B. MORE, GEO. STODDARD
Late Master Car Builder C.H. & D. & M.

MERCER, MORE & CO.,

BUILDERS OF EVERY DESCRIPTION OF

RAILROAD CARS

Cambridge, Ind.

REFERENCES.

M. H. Pres't, C. & I. C. Railway, Columbus, O.
M. RIDENOUR, Pres't, C. & I. J. R. R. College Cor., Ind.
J. M. LUNT, Sup't, C. & I. C. R. R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C. H. & D. R. R., Cincinnati,
J. H. WELLES, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton
C. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., Indianapolis
Aug 2, 1866.]

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IT CANNOT GET OUT OF ORDER, OR FREEZE UP.

WITH THE

STEAM SYPHON WATER-STATION

A locomotive can raise water, with its own steam, to fill
its tender in the same times as from an ordinary tank;
thus dispensing with tanks, pumping ma-
chinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops
Shops, Elevators, &c.,

AND BY FAR,

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—FROM—
CINCINNATI TO NEW YORK**

**WITHOUT CHANGE OF
COACHES!**

—VIA—

Atlantic & Great Western R'y.



PASSENGERS leaving CINCINNATI by the A. & G. W.
Railway, on Saturday Morning, by the 6:00 a.m. Lightning
Express, go

THROUGH TO NEW YORK

Without Detention arriving in New York 3:15 p.m. next
day, Sunday

2 Through Lightning Express Trains for New York,
Boston, and all points East.

TIME TABLE OF EXPRESS TRAINS.

Leave Cincinnati.....	6,15am.....	7,10pm
" Dayton.....	8,35 ".....	9,30 "
Arrive West Salem.....	1,50pm.....	4,53am
" Leavittsburg.....	4,55 ".....	7,35 "
" Meadville.....	7,35 ".....	11,10 "
" Susquehanna.....	7,48am.....	11,29pm
" Paterson.....	2,25pm.....	6,03am
" New York.....	3,15 ".....	7,00 "
" Boston.....	5,45am.....	4,45pm

Sleeping Coaches on Night Trains the entire distance
between Cincinnati and New York.

The NIGHT EXPRESS leaves Sunday
night instead of Saturday night. All other
Trains leave Daily, Sundays excepted.

DIRECT CONNECTIONS } At Salamanca with Erie Railway.
At Mansfield with Pitts., Ft. Wayne
and Chicago Railroad.

THIS IS THE ONLY ROUTE

TO THE

OIL REGIONS OF PENNSYLVANIA

Passengers to the Eastern Cities will find the

Atlantic & Great Western R'y

A most Desirable Route.

The Engines, Cars, and other Equipments, are entirely
new, of the most modern, substantial, and approved de-
scription, unequalled by any Railway on this continent.

SLEEPING COACHES

Provided for all Night Trains, and Smoking Cars for all
Trains.

Ample time is allowed, at all hours,
for meals.

No effort will be spared by the Company to render a trip
over the Road pleasant and comfortable to the Passenger.

CONNECTIONS ARE CERTAIN!

**FOR THROUGH TICKETS AND BAGGAGE
CHECKS,**

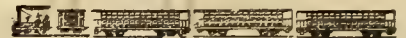
Apply in Cincinnati at New Depot of Cincinnati, Hamilton
and Dayton Railway; or at northeast corner of Broadway
and Front streets, and at No. 80 Fourth street, nearly op-
posite Post Office. Also at any of the principal Railroad
and Steamboat Offices, in the West and South-west.

W. B. SHATTUCK, Gen'l Ticket Agt. L. D. RUCKER, Supt.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1866, three Express
Trains will leave New York daily (Sundays excepted) via
Central Railway of New Jersey, and Allentown, leaving
Pier 15, foot of Liberty street, North River, at 7:00 and
9:00 a. m. and 8:00 p. m. On Sundays, one Express Train
at 8:30 p. m.

Passengers by this route save 50 to 130 miles, and Two
Hours' Time over other Lines, with but one change;
cars to Chicago or Cincinnati, and but two to St. Louis.
Passenger front 1/2 East by Sound Boats or by Rail in the
morning, will have time for Breakfast before leaving the
City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives
at Harrisburg 2 p. m., Pittsburg 12 night.

9:00 a. m.—MORNING EXPRESS, for the West. This
train leaves New York Two Hours later than other Lines,
and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with
Lehigh Valley Railway to Mauch Chunk; at Reading with
Philadelphia & Reading Railway for Pottsville, arrives at
Harrisburg at 8:30 p. m. Without change of cars from
New York to Harrisburg.

8:00 p. m.—EVENING EXPRESS, for the West with
but one change to Cincinnati or Chicago, and but two to
St. Louis. This train leaves New York Two Hours later
than other Lines, and arrives at principal places West
at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives
at New York at 6:00 a. m. next day.

3:00 a. m.—EXPRESS TRAIN, from the West, leaving
Pittsburg at 4:20 p. m.; passes Harrisburg at 3:00 a. m.;
Reading at 4:40 a. m.; Allentown at 6:00 a. m.; Easton at
7:00 a. m. Through cars from Pittsburg to New York.

9:05 a. m.—FAST LINE, from the West, leaving Pitts-
burg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Read-
ing at 10:52 a. m.; Allentown at 12:42 p. m.; Easton at
1:10 p. m. Through cars from Pittsburg to New York.

7:25 a. m.—WAY TRAIN, from Harrisburg, passing
Reading at 10:40 a. m.; Allentown 12:30 p. m.; Easton at
1:35 p. m. Through cars from Harrisburg to New York.
Arrives in New York at 5:20 p. m.

2:10 p. m.—FAST MAIL, from the West, leaving Pitts-
burg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Read-
ing at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at
7:20 p. m. Through cars from Harrisburg to New York
Arrives in New York at 10:45 p. m.

H. P. BALDWIN, General Ticket Agent.

**BEST ROUTE TO
ST. LOUIS & CHICAGO.**

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.....	7 00 A. M.	9 10 A. M.
Springfield & St. Joseph Ex.....	12 00 P. M.	4 30 P. M.
St. Louis & Chicago Ex.....	4 55 P. M.	12 15 A. M.

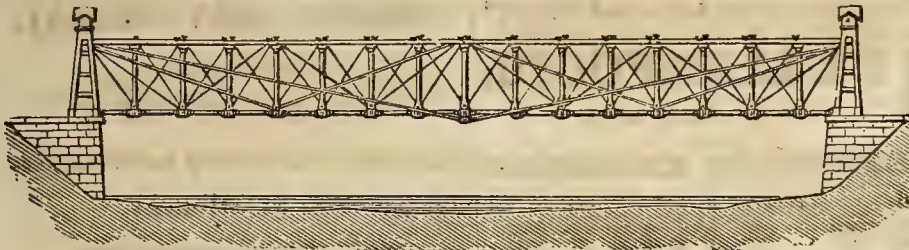
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Ac- commodation.....	5 15 P. M.	5 05 A. M.
Harrison Accommodation.....	10 10 A. M.	2 25 P. M.

Through Tickets can be obtained at the Burnet House,
Spencer House and Gibson House Offices; also at the
Depot. The Passenger Depot of the Indianapolis & Cin-
cinnati Railroad is within a few squares of all the pri-
cipal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.



(Plan of Bridge.)

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LOCOMOTIVE ENGINES,

In which they are adapted to the particular business of which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and rail work to be done. By these means the maximum usefulness of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunity of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowline or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings, every description of Copper, Steel, Iron and Boiler Work, and every article pertaining to the repair or renewal of Locomotive Engines.

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Chilled Wheels and Tyres

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Railroad Cars

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Locomotive Engines.

ORDERS executed promptly and sent forth celebrated Wheels, either single or double flange with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner, at the shortest notice, and on the most reasonable terms.

GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

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BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,

WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**From Cincinnati to Baltimore and but ONE CHANGE to
or Columbus to Philadelphia and New York.

Ask for TICKETS and BAGGAGE CHECKS via Baltimore & Ohio R.R.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
G. B. GIBSON, General Western Passenger Agent.**Cincinnati, Hamilton & Dayton Railroad.**

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Bureau House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.**JANUARY 5th, 1868.****Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

AINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Arrive SANDOVAL	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. & O.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine Street, Corner Front and Broadway; and at Depot, Foot Mill Street.

C. F. VOLLET Gen. Passenger Agent
J. W. CNLOGUE, General Superintendent.**Best Route to St. Louis and Chicago****INDIANAPOLIS,
CINCINNATI****LAFAYETTE RAILROAD**

Great Through Passenger Route from CINCINNATI to

**ST. LOUIS,
CAIRO,
CHICAGO,**Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha
And all Rail and River Towns and Cities in the West, North west and South-west.**5 THROUGH TRAINS DAILY,**
(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express...	7.00 am	10.50 pm
Indianapolis and Cairo Express.....	6.30 am	2.30 pm
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago.

Elegant Sleeping Cars on all night trains.
ACCOMMODATION TRAINS.
Lawrenceburg Accommodation.....10.10 am 8.35 am
Harrison.....5.30 pm 9.15 am
Lawrenceburg.....4.45 pm 2.10 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.**MOSELEY'S WROUGHT IRON ARCH****BRIDGES,**

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CORRUGATED IRON ROOFS

ARCHED AND FLAT.



CORRUGATED SHEETS, OF ALL SIZES, CONSTANTLY ON HAND, PAINTED, AND READY FOR SHIPMENT, with instructions for applying them.

MOSELEY & CO.
Boston, Mass.**EDWIN J. HORNER,**

Successor to

McDANIEL & HORNER,

**Locomotive and Railroad****CAR SPRING MANUFACTURER**

Wilmington, Delaware

FREEDON IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Elgin and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn**JOHN A. WRIGHT, Sup't,**

This Iron is all made from best Juniata cold-blast charcoal Pig Iron, refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works June 9

**THE SCHENECTADY
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SCHENECTADY, N. Y.,

Continues to receive orders and to furnish with promptness the best and latest improved

**COAL OR WOOD BURNING
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Railroad Machinery, Tires, etc.

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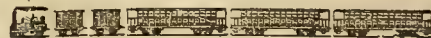
The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding their work to any part of the country without delay.

JOHN ELLIS, President.
WALTER McQUEEN, Sup't.**PASCAL IRON WORKS.**

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.**Wrought Iron Welded Tubes**—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas, Water, or other purposes, and fittings of every kind to suit the same.**Wrought Iron Galvanized Tubes**—strong and durable, designed especially for Water purposes.**Cast Iron Gas or Water Pipe**—1½ to 24 inches in diameter, and branches, for same, &c.,
Gas Works Castings, etc., etc.**PHILADELPHIA.**STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. P. M. TASKER
HY. G. MORRIS.**Philadelphia, Wilmington & Baltimore
RAILROAD!****FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)**SUNDAY TRAINS.**—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave Baltimore for Philadelphia at 8.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 6.30 P. M.

1. The revenues of the Government are and certainly will continue to be greater than the expenses. Congress largely reduced the internal revenue tax, but the business of the country has also largely increased, and what is equally important, the revenue is better collected. The imports do not diminish, and in a country as rich as this is they will not diminish; hence, the customs tax will not diminish, but, on the contrary, is increasing. This tax is paid in gold, so that the Government always has on hand more gold than is necessary to pay interest, and then the faith and credit of the country is firmly maintained. This is of the utmost importance, for if the credit of the Government was to fail, the whole commercial system of the country must go to pieces. Next, if we look

to the income tax we shall find that also steadily increasing. This must, of course, be the case, for the wealth of the country is constantly increasing. Next we have the whisky tax. This has been greatly reduced, but we have reason to believe that this also will increase, for a great many distilleries which were shut have commenced running again, and the Treasury Department is now far more successful in collecting the revenue. Hence, this item of revenue will also be greater. The tax on manufactures will also be greater. Hence, we may safely conclude that the revenues will largely increase, and they now yield a considerable surplus. The revenue of 1868-9 was about \$356,000,000. If there be no change made by Congress, and there can be none till the end of the financial year, the revenue of the current financial year will probably reach \$400,000,000, and the surplus revenue at least \$80,000,000. Hence, we shall find some important consequences.

2. The public debt will be materially reduced. This also reduces the interest and increases the means of the Government. If the people will have patience and let the present taxes remain, we see no reason why the National debt should not be paid within twenty years. Indeed there can be no excuse for not doing it.

3. The direct effect of strengthening the public credit, of reducing the public debt, and of a surplus revenue is to enhance the price of Government bonds, and this effect will go on. Already one class of bonds has reached 124, and the average is 121 for the 6 per cents, while the 5 per cent. are 110. In all probability the 6 per cents. will go up in a short time to 140.

3. The consequence of this state of things is that specie payments will be redeemed at an early day, unless the Government refuses to do it, which is a thing incredible. With gold at 36 and bonds at 124, the gold value of the bond is over 90. In fact, the gold average of the bonds now is 89 to 90. It is plain there is only 10 per cent. margin to cover, when the bonds will be at the gold par. Then the Government can command the gold without loss and resume specie payments when it pleases. This is the tendency of things now, and there will be great blundering if specie payments are not resumed at an early day. We may, therefore, congratulate the present most prosperous state of affairs, abundant crops, abundant revenues and business dull, only because credit is rising and prices falling. That is not a state of things to be regretted.

A survey and estimate is being made of the Tennessee end of the Cumberland and Ohio railroad. They have state aid to the amount of \$10,000 per mile and \$100,000 to cross the Cumberland river. Gen. A. P. Stewart writes to the Hartsville *Vidette* and says that the road will and must be built.

Prospectus of the Cincinnati and Baltimore Railway Co.

CAPITAL STOCK, paying dividends semi-annually at rate of eight per cent. per annum, free of income tax, from date of payments, on account of subscription.

BONDS, secured by first and only mortgage, bearing interest at seven per cent. per annum, payable semi-annually.

Both guaranteed by Marietta and Cincinnati Railway Company, as reorganized.

CINCINNATI, June 30, 1869.

The attention of capitalists, and particularly of the friends of the railway line between Baltimore and Cincinnati via the Baltimore and Ohio and the Marietta and Cincinnati Railroads, is invited to the Cincinnati and Baltimore Railway Company, and to the security offered for investment in its capital stock and first mortgage bonds.

The Company is organized under the General Railroad Act of the State of Ohio, and is entitled to all the privileges and rights of other railroad companies in that State which have been organized since 1851.

It has, by authority of law, the right to build, maintain, and operate a railroad with one or more tracks, between Cincinnati, in Hamilton County, Ohio, and the town of Loveland, in Clermont County, Ohio, with power to buy or lease any connecting railroad. It proposes at present to build only a part of its authorized line, to wit: From its intersection with the Cincinnati and Indianapolis Railroad within the city of Cincinnati, to the end of the completed line of Marietta and Cincinnati road, a distance of about seven miles.

The right of way has been donated to the company for about one fourth of the distance, and a large portion of the residue has already been secured by purchase at reasonable prices.

The construction of the earth-work and masonry for the entire line is under contract; the work is in progress, and by the stipulations of the contract is to be fully completed by the end of 1870.

It is estimated that the cost of the road, owing to the deep fill in Millcreek bottom, and the heavy masonry, will probably be over \$750,000. To meet this cost—with a reasonable margin for contingencies—the share capital has been put at \$500,000, and an issue of bonds determined upon, amounting also to \$500,000, to be secured by a mortgage or a deed of trust—in which John King, Jr., and Thomas Wittridge, of Baltimore, are named as Trustees.

Of the share capital, the Marietta and Cincinnati Company has subscribed \$100,000, and is under obligations to increase its subscription so as that at all times the amount thereof shall be equal to, or greater than the one half of the paid-in capital. The Baltimore and Ohio Railroad Company has subscribed for \$50,000, and indicated a willingness to subscribe \$50,000 more should it become necessary; leaving, say, \$150,000 to be taken by individuals. A part of this is already subscribed. The remainder, as well as the mortgage bonds of the company, present to the capitalist a favorable opportunity for judicious and safe investment.

The fact that the entire traffic, local and through, of the Marietta and Cincinnati road and its branches was dependent upon another, and in many respects a company with different and rival interests, presented to the managers of the Marietta and Cincinnati road very grave and embarrassing questions. They

had wisely, in the expectation of being themselves able, at no distant day, to extend their line into the city, and to secure the right of way for that purpose, purchased several parcels of land adjacent to the line; which have greatly increased in value, but not to a sum sufficient of itself to build the road.

Without other resources, in capital or credit, they were obliged to look to other parties to accomplish an object of such vital importance to their success. The organization of a new and independent company, in which the Marietta and Cincinnati, by subscribing for the half, or more, of its share capital, might retain a controlling interest; and upon whose road a first and only mortgage might be placed, was, therefore, resolved upon and perfected, and an arrangement made by which the use of the new road was secured perpetually to the Marietta and Cincinnati Company, on payment, as rent, of eight per cent. per annum, free of income tax, on the paid-in capital stock, and seven per centum per annum on the mortgage bonds; both payable semi-annually and all taxes that might be legally imposed upon the company, or its property, together with such further sum as might be necessary to maintain the corporate organization of the company, and to preserve its franchises. The Marietta and Cincinnati Company are also to maintain and keep the road and other structures in repair.

The performance of the conditions of the contract by the Marietta and Cincinnati Company is secured by appropriate provisions: as to forfeiture, &c. That company has the ability to pay its subscription to the full extent of \$250,000, if required, by a sale of its valuable real estate, hitherto reserved for this very purpose of extension into the city. The fulfillment of its guarantee to pay the dividends on the stock, and the interest on the bonds of the Cincinnati and Baltimore Railway Company, is secured by the increase of its earnings and prosperity resulting from its alliance with the Baltimore and Ohio Railroad Company. That company, in order to avail itself of its shortest and most direct line to the West and South-west, has, at immense cost, greatly improved the track, and enlarged and arched the tunnels on the Parkersburg branch, so that cars of the largest class have taken the place of the small and inconvenient ones heretofore used. It has commenced, and is pushing rapidly to completion, the railroad bridge across the Ohio at Parkersburg; has furnished, or is furnishing means and credit to the Marietta Company to ballast and complete its track; and has recently put on through cars, both for passengers and freight, which, without changing or breaking bulk, made the entire distance between Cincinnati and Baltimore in shorter time than ever before known. The Vice President of the Baltimore and Ohio is the President of the Marietta and Cincinnati; a majority of the directors of the latter or either Directors of, or are closely allied to the former. The Baltimore and Ohio is the largest stockholder in the Marietta and Cincinnati; and by the purchase of both bond and stock, the citizens of Baltimore have reason to be, and are almost as deeply interested in the success of the Marietta and Cincinnati, as in that of their own great and favorite road.

Public sentiment has come to regard the two roads as identical in interest and as constituting but one line, and that the shortest between the seaboard and the West. Connecting as closely as it does with the Indianapolis and Cincinnati and the Ohio and Mississippi roads, and extending itself westwardly

through them to St. Louis, this line is the first of all the great trunk lines leading eastward which is struck by the trade and travel of the South and South-west, as they advance northward and eastward through Cairo, Louisville, Cincinnati, Maysville, and Portsmouth, seeking an outlet to the East. Its location assures its success, and its day, after so long a night, is dawning. If it be suggested that some unlooked for turn in the affairs of the Marietta and Cincinnati may impair its ability to meet its obligations, the answer to the suggestion is obvious. The very necessities of the company will secure the payment of the rent.

Whatever may happen, or whosoever may hold the management, it is evident that it will not suffer its entrance into Cincinnati to be forfeited. "All that a man hath will he give for his life," and as the penalty of default in this case is decapitation, such default is not likely to occur. A similar instance of the lease of a short line giving an entrance to an important terminal point, is found in the case of the Patterson and Hudson Railway, which is leased to the Erie Railway, and gives to the latter its entrance to the city of New York. Through all the vicissitudes of the Erie Company, no embarrassment in its affairs, no change in its management, have ever been allowed to interfere with the prompt payment of its rent to the Patterson and Hudson Company.

The history of the original Marietta and Cincinnati Railroad Company furnishes another instance of similar character. The trains of that company, in order to reach Cincinnati, were formerly compelled to pass over the Little Miami Railroad from Loveland to Cincinnati, a distance of twenty-three miles. The rent exacted by the Little Miami Company for this privilege was \$60,000 per annum, and this sum was promptly paid, although the lessee was largely insolvent, and for nearly two years of the time the road was in the hands of a receiver, and not even paying its running expenses.

Many other like instances will readily suggest themselves in proof of the moral certainty attending the payment of rent for the use of short lines giving long ones access to important points.

Wholly aside from the ability of the Marietta and Cincinnati, or any other one company, to maintain itself and pay a profit on the Cincinnati and Baltimore road, the latter has an intrinsic merit of its own, insuring to it a constantly increasing value, and affording in itself a sufficient security to both stock and bondholders. The space for convenient railway entrance into Cincinnati is very limited. The narrow way between the Ohio River and the adjacent hills, at the east end of the city, is wholly occupied by the Little Miami Railroad. The approach from the west is far better, and here the Ohio and Mississippi, the Indianapolis and Cincinnati, the Cincinnati, Hamilton and Dayton, have occupied all the available ground, except that on the east side of Mill Creek, on which the Cincinnati and Baltimore line is located. Heretofore, other railways from the North and East (including the Marietta and Cincinnati) have been compelled to pay large tribute to these prior occupants. Hereafter, the Cincinnati and Baltimore, occupying a line more expensive in its inception, but more direct when built, and most favorable to all northern roads, will not only share the tribute which less-favored companies must pay, but, by its better location, will command the preference.

Every addition to its customers will add to

the security for the prompt payment of the interest on its bonds and stock.

WILLIAM T. MCCLINTICK.

President Cincinnati and Baltimore Railway Co.

DIRECTORS.

WILLIAM T. MCCLINTICK, of Chillicothe, Ohio.

JOHN KING, JR., of Baltimore, Maryland.

HENRY C. LORD, of Cincinnati, Ohio.

C. OLIVER O'DONNELL, of Baltimore Md.

KENNER GARRARD, of Cincinnati, Ohio.

WYLIE H. OLDHAM, of Marietta, Ohio.

JOHN DONNEL SMITH, of Cincinnati, Ohio.

Books have been opened for receiving subscriptions to the capital stock of the Cincinnati and Baltimore Railway Company at the office of the Cashier of the Marietta and Cincinnati Railroad Company, corner of Plum and Pearl streets, Cincinnati.

JOHN DONNEL SMITH, Sec. and Treasurer of Cincinnati Baltimore Railway Co.

Chesapeake and Ohio Railroad.

A correspondent of the New York Tribune writing from the White Sulphur Springs of Virginia, says:—"Two great things are destined, I think, to revolutionize things in this upper portion of Virginia. I refer to the incoming of Northern settlers, and the completion of the line of railroad which has been slowly advancing westward across the State for the past thirty years. It may not be generally known that the Alleghany range has again been covered by a railroad. Yesterday, I had the pleasure of traveling on the first passenger train which passed over from the waters of the James River to the valleys of the Kanawha. The line between Richmond and the base of the mountains proper at Staunton was completed some years ago, mainly with the aid of the State of Virginia, and at the close of the war the building of the line was suspended at Covington, an antique little town at the base of the westernmost chain of ridges. Since 1865, but little more could be done with the means at command than to put the old line in repair, and to open twenty-two miles additional, upon which much of the heaviest work had been done. This very considerable task has at length been accomplished, and on to-morrow, the trains will make continuous trips from Washington or Richmond to this point. Passengers from New York leaving by the 9 p. m. train reach White Sulphur Springs at 8:30 the next evening. In order to appreciate the vast work which has engaged the attention of the Railroad Company for the past four years, it may be well to state that the cost of the 22 miles of road will be, when perfected, nearly three and a half millions of dollars, of which a million or more has been raised since the war. The tunnel of which the summit of the Alleghany is pierced is 4,800 feet long, and cost \$500,000 to excavate. It is wide enough to admit a double track, as are also several other smaller tunnels and cuts required in making the passage.

Perhaps it may be asked—"Why make provision for a double track?" This is precisely the idea suggested to myself! It was until I had examined the history and details of the enterprise that I began to appreciate either its magnitude or importance. It appears that years ago, when canals were in favor and it was evident that the Ohio and Mississippi Valleys were to be the seats of production, the attention of engineers was turned

to the most available passes for canals across the great Appalachian chain of mountains which lies athwart the country. The Erie Canal was the first constructed, but it connected only the great lakes with the sea, and, besides, was frozen or useless half the year. Railroads superseded canals after a time, but not before the State of Pennsylvania had endeavored to construct a canal over to the Ohio at Pittsburgh, and failed, and the State of Virginia had built one likewise to the foot of the same mountains where the difficulties became insuperable. It was at this happy juncture that railroads were introduced to supplement the canal system, which they afterward set aside. The mountains were searched for available water gaps where the streams cut through the subordinate hills, as the most natural channel for railroads. One line was carried over in the Valley of the Susquehanna, a second on the Valley of the Wyoming, and, later, a third over the head range of the Potomac. During this time some of the most eminent engineers of the country had examined the James River for a suitable passage for a canal, among them Charles Ellet, the well-known commander of the Ram Fleet, who lost his life at the naval battle of Memphis. It is probable that if the war in which his valuable life was sacrificed had not broken out, either a railroad or a canal, or both, would have long ago been connecting the Ohio waters with those of the lower Chesapeake, as it presents the fewest natural obstacles of any of the passes now in use. It is asserted, and I do not doubt it, that a constantly ascending line can be built from the Ohio to the summit of the Alleghenies, near this point, with no grade greater than 30 feet to the mile. Hence down the tributaries of the James, the road, as now built, has none greater than 80 feet to the mile, and it is possible to reduce these somewhat. It is further found that the distance from Cincinnati to the Chesapeake tide-waters is less than by either the Baltimore or Philadelphia routes. The distance from the head of navigation at Charlestown, on the Kanawha, to the navigable waters of the James is actually less than from Pittsburgh to Philadelphia. These facts are very important, for they give to the West another shorter and easier trunk line of railroad to the ocean. The Chesapeake and Ohio Road, as has been stated, is more than half built, and much of the hardest part of the work is done.

The line is completed from the West Virginia boundary to Richmond 225 miles; intersecting the Orange and Alexandria Railroad at Gordonsville, which will form a Northern connection and offer a short line between Cincinnati, Louisville, and Saint Louis to the National capital. It will require perhaps 12 or 18 months to complete the line to the Ohio River, where it is likely a vast traffic will pass over the line as the Eastern and Central portions of the line abound in iron ores, while the Western section has valuable veins of splint and cannel coal which are valuable for smelting purposes, as they contain no sulphur. Beds of anthracite and bituminous coal are found adjacent to the road."

GOLD.—The total receipts of California gold at this port, since July 1, 1868, have been \$19,231,237, against \$34,742,562 same time in fiscal year 1867-68, showing a decrease in the current fiscal year, of \$15,511,325. The exports of specie, from this port, since July 1, 1868, \$35,885,929, against \$72,879,605 in 1867-68.—*New York American Railroad Journal.*

A New Railroad War.

Gould and Fisk against the Toledo, Wabash and Western Railroad—A Receiver pointed—He gets \$1,875,000 of canceled certificates.

Jay Gould agt., Azariah T. Boody and others—Supreme Court—Special Term—Before Mr. Justice Barnard. Jay Gould has brought an action as the owner of a large proportion of the stock of the Toledo, Wabash and Western Railroad for himself and all other stockholders who close to join to restrain the further issue of stock by the Company. His complaint sets out the various consolidations by which the company has arisen out of previous companies, and that the company is in connection with the Decatur and East St. Louis road. Under these consolidations he says the railroad was limited to \$15,000,000 of stock, but had in fact issued but \$6,700,000 of that stock up to the 17th of May last. On that day a very large additional issue was authorized, as he claims, by a bare quorum of the directors without consulting the stockholders generally. This he claims was illegal under the laws of Ohio, the directors alone having no power to issue the stock. He further charges that the purposes of this issue were fraudulent. The earlier issue of the stock was \$500,000—5,000 shares for the purchase of the Wabash Elevator Company. The Wabash Elevator Company, he says, formed with a capital of \$214,000, erected warehouses, &c., on land belonging to the railroads, with the understanding or agreement that the railroads should have a right to purchase at any time a majority of the stock at par. Instead of this he avers certain of the directors of the Company purchased in this majority of the stock for themselves. He avers that the property of that Company is worth more than its stock at par, but not \$500,000—not more than \$350,000. He claims that this is a transaction by the directors with themselves for their own benefit. The second and larger issue of stock was for nearly \$1,900,000, and this was issued to raise funds to continue the Decatur road west under a contract with that road. In this contract he claims the directors, or some of them, have secured undue advantages to themselves. When this suit was commenced, this latter stock had been issued in 19 certificates to brokers to sell, but had not been actually sold. These brokers were therefore made parties. An injunction was asked against the defendants, restraining them from disposing of these certificates, and also relief against the individual defendants. Somewhat similar suits have been commenced by James Fisk, and by an Ohio stockholder, the latter in that State. In this suit a preliminary injunction, in conformity with the prayer of the complaint, was granted, and served about the 18th of June on most of the defendants. The Company keeps a stock registry book at the Metropolitan Bank, but shortly after the service of the injunction most of their other books were transferred from their office here to Toledo. On this fact, and on certain of the proceedings in the Ohio suit, a Receiver was applied for of the alleged illegally issued certificates of stock, and E. L. Lowe was appointed such Receiver. He, on Wednesday, got possession of the certificates for the last and larger issue of stock, but before they were delivered to him they were canceled. The case came up in Court, yesterday, on a motion to punish Mr. Azariah T. Boody and Mr. Colburn for contempt in disobeying the injunction.

Mr. Boody and Mr. Colburn both testified that they had received some of the first issue of stock, and had disposed of it, but claimed that this was before the injunction was served on them. They also testified that the books of the Company had been sent away. In Mr. Colburn's examination Mr. Field asked him why they had been sent away. Mr. Colburn replied, under the advice of counsel, that they were not forbidden to do so by the injunction. Mr. Field pressed for the motive. Mr. Fullerton objected that, as this was not forbidden by the injunction, it was immaterial. Mr. Field said he desired to show that this was done to evade the jurisdiction of the Court. The trouble with these parties was that they were willing enough to take New York money, but were not willing to abide by New York law. Mr. Fullerton—We are not willing to abide by New York law as now administered. Mr. Field—Well, that looks a little like a reflection on the Court, doesn't it? Mr. Fullerton—I said it was no reflection on any one; he meant what every one in this community knew to be true. He should, and he believed every lawyer would, advise any rich company, when assailed, to remove its property when it legally could. Mr. Field renewed his question, were not the books removed to withdraw them from the jurisdiction of the Court? Mr. Fullerton objected that he had already answered that he done it by the advice of counsel, and the further question of motive was not pertinent. Mr. Justice Barnard said it was no wonder that some persons should desire to withdraw property from this State. But for rascals who came among us to do such things there would be many among us in want of employment. The jails and poor-houses would be drained. Mr. Fullerton with great warmth, repelled the insinuation if intended to be made against his clients. They were among the most honorable and upright men of the business community, and this transaction, they should show, was entirely upright, legitimate, and proper. Mr. Field—That does not appear from the evidence now taken. Mr. Fullerton—That evidence was entirely *ex parte*: they have had no opportunity yet to show the merits. It was a counsel's duty to defend his clients from all unjust aspersions on their character, whether it came from the Bench or elsewhere. That duty he should perform. If this was intended as an imputation on his clients, he might have matter to say in it that would not be pleasant for His Honor to hear. Mr. Justice Barnard disclaimed any imputation of discredit on the defendants. He had before had occasion to try and bring Messrs Gould and Fisk at one time, and Mr. Vanderbilt on another, to justice, when he believed that they had gone wrong. His expressions related no more to these defendants than to them. Mr. Fullerton said as he understood His Honor to disclaim any imputation on his clients, he had nothing more to say. Mr. Field was there to protect Mr. Gould. Mr. Field said that as the counsel had given his characterization to this transaction according to his view, he thought he might characterize it in his. He regarded it as, and expected to show it to be, wholly illegal and improper, and he might add fraudulent. In this he and counsel for defendants differed, and it was this difference that was to be tried in this case. Mr. Colburn's examination was then proceeded with. The books had been sent to Toledo, where their main office was; New York had but a branch office. In reply to his counsel, he said the 500 shares he held were sold before he received the certificates, and delivered be-

fore the injunction was served. The directors had resolved not in any way to violate the injunction which was served on them. In reply to Mr. Field he stated that he did not know when the certificate was actually delivered, except from the ordinary course of business, nor the exact time when he received the consideration. It was done through a broker. The resolve of the directors was not formal, but conversation among themselves. The case was then adjourned to to-day. Messrs. Davis Dudley & Dudley Field for plaintiff; Mr. Fullerton and Messrs. Cram and Robinson for defendants.—Tribune.

Vicksburg & Meridian Railroad Co.

Eighth annual report of the affairs and operations of the Company for the fiscal year ending February 28, 1869:

Freight earnings.....	\$194,199 55
Passengers.....	147,555 32
Mails.....	12,633 73
Incidentals.....	36,014 67
Total.....	\$390,403 27
Conducting transportation exps.,	\$54,075 83
Motive power.....	60,687 54
Maintenance of way.....	91,420 80
Maintenance of cars.....	12,532 47
Contingent expenses.....	1,253 30
General salaries.....	12,160 44
Total.....	\$232,130 38

As compared with the fiscal year, ending February 29, 1868, the gross earnings show a total decrease of \$98,403 75:

Decrease in passenger business....	\$16,945 45
Decrease in freight business.....	93,092 42
Increase in incidentals.....	10,138 51
Increase in mails.....	1,895 61
Total earnings.....	\$390,403 27
Total expenses.....	232,130 38
Net earnings.....	158,272 89

The expenses are 59½ per cent. of the gross earnings. As compared with the previous year, the operating expenses show a decrease of \$133,909 55. With such a decrease in the earnings as compared with the previous year, it is a relief that there was such a decided reduction in expenses also. That result was no doubt partially produced by the greatly improved condition of the road during the last fiscal year—and partly by the adoption of a rigid cash system in all transactions since the 1st of January, 1868, the result of which has been a marked reduction of expense in maintaining and operating the road—and it is creditable to the management of the road that with such a reduction of expenses the road, rolling stock, depots, &c., have been much improved.

In the readjustment of the debt of the company early in 1866, it was found necessary to increase the mortgage debt to three millions, two millions having been the previous limit. Consequently a new mortgage for that amount was created, and the original mortgage debt was merged into it—together with the bonds given for arrears of interest, which had accrued between 1861 and 1867, and also all the debts of the company then outstanding having no mortgage security, so far as the holders were willing thus to convert them.

The intention being to consolidate all the debts of the company under one general mortgage, and to issue bonds under the cover of that mortgage, payable in 1890, bearing seven per cent. interest—preserving unimpaired the pre-existing liens and priorities of

the old bonds, for which they were substituted. With that view four classes of bonds, secured by the three million mortgage, have been issued. * * *

The following amount of new seven per cent bonds have been paid out—including a portion paid out for conversions and settlements, made with the Southern creditors by this Company:

First-class, red endorsed bonds.....	\$520,500
Second-class, blue endorsed bonds...	668,000
Third class, black endorsed bonds...	106,000
Fourth-class, unendorsed.....	623,900

Total.....\$1,918,400

The total floating debt February 28, 1869, was:

Bills payable, outstanding of all descriptions.....	\$161,465 60
Due on back pay rolls.....	20,784 19
Due on open account.....	16,765 36

Total.....\$199,015 15

a considerable portion of which is for indebtedness incurred previous to the war.

The result of the year's business would have shown larger freight and passenger receipts but for the railroad transfer difficulties which we had to contend with at Meridian, in regard to our Alabama business, causing a considerable portion of Alabama western freight, that would have been sent via Vicksburg and over our road, to be diverted into other channels. But, in February last those difficulties were satisfactorily adjusted and the 26 miles of road between Meridian and York Station, was at once placed, by the new proprietors, under the control of the Selma & Meridian Railroad, to be operated as a part of their line. With the removal of those difficulties at Meridian, this Company is fast recovering its Alabama business, with strong hopes of considerably increasing it.

With regard to our light iron the General Superintendent says that 52 miles of it has been punched, and 6,532 new and substantial chairs, substituted for the old and light cuffs that were placed on the track when it was originally built. The change is an important one, and the work will be continued as fast as possible, as well on account of the greater security and improved condition of the track, as in the economy of keeping it so. We are not only welding the laminated ends of the most defective old rails, but are successfully welding together the different portions of rails that are sound, giving us rails as good as new, 25 to 35 feet long, which, when laid with the heavy rolled chair, makes an excellent track.

Notwithstanding the length of time, twenty-nine years, that our light iron had been in service on the track, it was the opinion of Mr. Morris that by properly repairing and welding the rails, it would still outlast the English new rails then being put on the track, and earnestly advised that the iron should be improved by such means, to the full extent that the limited means of the company would authorize.

The General Superintendent in his report testifies to the advantages of that important work, and states that two more forges in addition to the two now in operation, and also a rail straightening machine and a steam hammer will be erected without delay, and states, that with these facilities we can weld about seven tons of the old rail per day, at a cost of about seven dollars per ton.

During the past year we have used 6,532 new chairs on the light rail—have repaired

the ends of 755 rails 18 feet long—and welded 1,045 rails averaging about 30 feet long, in all about 4½ miles of light rail—and we have also repaired 257 of the 50 lb. rails, making 257 tons of light and 45 tons of heavy rail. We have also laid down a half mile of new rail, 50 lbs. to the yard.

Meeting at Paterson in favor of the Midland Railroad.

So great interest was taken in the project of having the Midland Railroad run through Paterson, that a number of business men issued a card of calling a meeting at the Opera House last evening in furtherance of the effort. The call was signed by A. R. Godwin, cotton manufacturer; A. Prall & Co., cotton manufacturers; Rogers Locomotive and Machine Company; James Jackson, banker; Cornelius J. Westervolt, coal merchant; Robert Hamill, James Booth, John C. Ryle, T. N. Dale, and John Dunlop, silk manufacturers; John Ryle, Mayor; Thomas Beveridge, lumber merchant; W. G. & J. Watson, machinists; John J. Brown, banker, and D. B. Grant, Locomotive builder. The Opera House was moderately filled. Ex-Mayor W. G. Watson was chosen Chairman, who introduced Mr. Pratt President of the Montclair road. The speaker said the Montclair Railway Company intended to build through New Jersey and lease to the Midland Company. A railway is wanted which is responsible to the people. The \$6,000,000 for the Midland Company have come from the people, \$5,000,000 by bonding. A railroad must be built to develop the Mineral regions of Northern New Jersey. The Governor who vetoed the bonding bill was President of the Morris and Essex Railway. The question of bonding Passaic County is negatively. The road is not proposed to interfere with other railroads. The road will carry locomotives to Jersey City for \$30. The New Jersey Western Railway, as part of the Erie, will not be a road competing with the Erie. The Morris and Essex extension is intended to gain only the coal trade. The Midland will connect with three quarters of all the railways. That road will avoid Bergen tunnel. In a year 300 trains will pass through that tunnel, and an accident must occur. The Midland Company will cut a new tunnel. Mr. Littlejohn said he did not intend to reply to personalities in another meeting, but wishes a committee to investigate the affairs of the Midland Company. [Applause] The speaker recapitulated his speech of two weeks ago, and added an explanation of the route, and showed the heavy grades of the Erie in contrast with the low ones of the Midland. The capital of the Midland road will be small. It will belong to the people. Two hundred million feet of lumber go to Oswego every year. Hundreds of vessels are in that port. They will seek the nearest railroad terminus to New York, which is Oswego, the head of the Midland Road. This will cheapen flour and lumber. The statement at Port Jervis that this road will pass over hills was correct. The Erie makes \$350,000 a year on the Otisville milk train. The Midland will introduce new milk routes. Plaster costs \$15 a ton. The Midland will bring it for \$6. It will bring salt and coal. In regard to the Port Jervis meeting insinuations, Oswego has subscribed \$750,000, and other towns in proportion, \$6,000,000 in all, in bonds selling at par, enough to build as far as located—half the capital needed—and one-half the road will be built by October, and paid for without mortgage. Two hundred thousand dollars have

been paid out to build. The tunnel building through the Shawangunk Mountains is to shorten the route, as is also the going to Middletown instead of Port Jervis. The dissatisfaction of the contractors is caused by a rise in their workmen's wages. Wontage will raise \$150,000; Hamburg \$50,000. The speaker offered to pay the expenses of a Committee to investigate the road and its finances. The statements at the Port Jervis meeting were untrue. The spirit of the meeting was in sympathy with the proprietors of the road, and a Committee will investigate its affairs.—N. Y. Tribune.

A Step to the Pacific.

The agents of the Kansas Pacific Railway present, in another column, an enterprise possessing features which seem to merit special comment. Having built their road from Kansas City to Sheridan, and found it a profitable and promising investment, the managers now propose to continue it to Denver, and thus open up the trade of the Rocky Mountains. That much, it is hoped, will be completed by June next; and its agents, Messrs. Dabney, Morgan & Co. and M. K. Jesup & Co., bankers and merchants of high reputation, now tender, through our columns, a loan of \$6,500,000 for this purpose.

These gentlemen state with clearness the reasons which have induced them to give this loan their indorsement. The Kansas Pacific Railway now runs through the center of Kansas, and is in successful and profitable operation for over four hundred miles. We remember the country through which it passes as a wide, open plain, apparently as boundless and rolling as the sea, known only to a few tribes of wild, roving Indians; and occasionally to a venturesome squad of stageguards and herdsmen, who ministered a primitive hospitality every fifteen or twenty miles. Topeka, Salina and Manhattan were little more than the geographical designations of towns that hoped to be. Hays, Ellsworth, Sheridan and the twenty stopping places now upon its time table, did not exist, even in the imagination of the pioneers. Denver was a mere cluster of mining cabins and Indian huts. The Cheyennes and Arapahoes held solemn council or high revelry in its ways. There was no law, but a great deal of rude, summary justice, which grieved sober believers in *habeas corpus* and trial by jury. Now, Denver is as neat, well-built and comfortable as Hartford, with schools and churches, rows of brick stores, hotels and tasteful dwellings, which recall the luxury and comfort of the East. Nature has rimmed and fringed it with the noble Rocky Mountains, whose hills glisten in snow, while their sides are clothed with deep and rich midsummer greenery.

It is now proposed to unite this city with the East by an extension of the Kansas Pacific Railway. To do this it will be necessary to build 220 miles of road. The managers are wise not to defer it, in the vain hope of being able to induce Congress to vote them large subsidies. The Government has built one road to the Pacific at a great expense. Private citizens are quite ready and willing to build another, especially when those who ask their aid can show as good a balance-sheet as the Kansas managers. St. Louis is on the natural route from New York to the Rocky Mountains and San Francisco. It is the metropolis of the mighty Valley of the Mississippi, and the extension of this road is a new and important step in the great high-

way between St. Louis and San Francisco. The Union Pacific (Omaha) road has as much business as it can manage, and we have grave doubts whether it will be able to keep open a through route amid the midwinter snow and ice of the Sierra Nevadas. A through road must finally traverse the warm countries of New Mexico and Arizona, along the thirty-fifth parallel or below it. General Palmer has surveyed a route where snow rarely falls—every mile of which opens rich mining deposits. It embraces the oldest towns on the continent. The country demands such a road, and this extension is a step toward completing it.

It is interesting to note the progress of a railway which draws its business from a country ten years ago conceded to the buffalo and the aborigines. In April the Kansas road earned, in gross income, \$217,914 40, of which \$93,291 61 were balanced by expenses, leaving a net profit of \$124,622 88. In May the earnings were \$222,163 46; the expenses \$107,987 77, leaving a profit of \$114,175 69. Two months' aggregate, \$238,798 57. There are few roads in our older and riper States that would not be content with as good a result. But the truth is, these new countries have much growth in them. We have but to touch our Western prairies and hills with the iron wand and cities spring up; towns cluster along the streams and highways, and broad plains blossom with wheat, corn and barley; school-houses and churches take the place of the block-house and the fort, and the great rivers are disturbed by steam and water-wheel. So our civilization has marched over the prairies, is advancing over the plains, and in a few months we shall have the vast treasures of Colorado and the gold countries under contribution. The President, in his last inaugural, pointed to those hills as the "strong box," whose treasures would pay the National debt. This railroad is the key to open it. We, therefore, look with pleasure upon this effort of private citizens to carry another road to the Pacific. We must have at least three railways across the continent. We must enable the Northern, and Southern and Middle States respectively to reach the furthest West by the most convenient way. We look upon the State of Kansas with an interest not far removed from affection. This child of tears, and blood, and agony now marches to the dignity and grandeur of an empire, and well deserves the proud, fond name of "the Massachusetts of the West." To this road she owes much of her prosperity; and now that its owners propose to carry it to Denver and wed the Rocky Mountains to the Mississippi Valley, we hail them as men doing great national service, and earnestly hope they will receive from our people prompt and earnest support. The loan they offer is certainly a good one. It yields high interest in gold, has many years to run, is secured by large grants of land and a profitable railway, and is indorsed by men whose word gives it the force of an irrefragable guarantee.—*N. Y. Tribune.*

INVERTED SYPHON.—An iron pipe, 11 inches in diameter and 8,800 feet (one and two-third miles) long, has been laid in Tuolumne County, California. It runs down a mountain, under a creek, and up the ascent on the opposite side, under a perpendicular pressure at the lowest point of 684 feet.

The Hoosac mountain has been tunneled 9,338 feet, and there are yet 15,693 feet to be bored.

Gold in Brazil.

The most valuable and extensive gold mine in the world is that known as the "Morro Velho," in Brazil, which is worked by an English company, known as "The St. John de El Rey Mining Company," an association which was first formed in 1830, for working the St. John de El Rey Mine. Operations were continued on this mine for two years, when it was abandoned, and the company bought and transferred their works to the "Morro Velho," a mine located about 90 miles north of the former, and some 250 north of the city of Rio Janeiro. Valuable details with regard to this mine are given in the late work published by J. Arthur Phillips, entitled "Mining and Metallurgy of Gold and Silver," from which we collate as follows:

The mine is located in the midst of an extensive mining region, on the western slope of a range of mountains closely resembling in topography and geology, the western slope of the Sierra Nevada of this State.

At the time of the purchase of the property it had been extensively worked by native proprietors for more than a century, chiefly by open cuttings, and with varied results and reported profits; but a considerable outlay having been found necessary to increase the resources of the mine, the company worked at a loss during the first four years of its possession. In 1839, the returns exceeded the outlay; but the original capital having been exhausted by the losses incurred at the St. John de El Rey Mines and the purchase of the Morro Velho property, it was found necessary to apply the greater portion of the proceeds of the gold extracted to the extension of plant, and it was not until 1842 that the first dividend was declared.

From that date, with the exception of an interval of eighteen months on one occasion, and twelve months on another, during which the working of the most productive portion of the lode was interrupted by a breakage of the pumping and other machinery, the company has regularly paid dividends every six months.

The original paid up capital of the company was \$642,000 since which time \$540,000 have been laid out in machinery, etc., which with stores on hand valued at \$200,000, and a reserved working fund of \$360,000, makes the total working investment of \$1,742,000.

The total value of the precious metals extracted from this mine, up to 1847, was about \$15,000,000; tons of ore raised, 1,770,000; total average yield \$8.47 per ton. Everything that comes from the mine is recorded as ore, and weighed. It is all assorted, however, and about 24 per cent thrown aside as second class, and worked separately. From the above figures, it will be seen that it costs \$5.64 per ton to raise and crush the ore, leaving a net profit of \$2.83. The bullion from this mine carries about 20 per cent. of silver. The profits of the mine are steadily increasing, as is also the yield of the ore, as is shown by the average yearly yield per ton for the eighteen years from 1848 to 1865 inclusive. For the nine years previous to 1857, the average yield was 3.98 oitavas per ton; for the next succeeding nine years the average was 4.71 oitavas. This improvement, however, is in a great measure attributable to the improved mode of treatment, which has been gradually introduced into the milling processes.

The company has six mills in operation for reducing its first class ore, running from nine to thirty-six stamps each, and aggregating in all 135. The average daily duty of each

stamp is, 2,666 pounds. The company employs 2,400 hands, about 130 of whom are Europeans.

The sands of the first class ore, after passing through the batteries, are conveyed to a second series of mills where they are mixed with the second class ore, and again put through other mills, in which are employed 56 stamps.

The formation affording the gold is a strong well defined lode, though irregular in direction, dip and dimensions; its inclination or underlie has also been found to vary at different depths, and in different parts of its extent. The vein stone is mostly composed of quartz with iron pyrites, disseminated more or less regularly, throughout its mass, and the lode is not unfrequently traversed by clay slate and barren white quartz. When pyrites are absent in these rocks, gold is seldom present. Arsenical, magnetic, and ordinary iron pyrites predominate at different points, and in varying quantities; carbonate of lime; dolomite, brown spar, and, very rarely, copper pyrites, are also present in the vein.

In some places the vein is cavernous, and less close in its texture than in others; but where drusy cavities are frequent the yield of gold diminishes. The most productive matrix for gold is a compact mixture of quartz and pyrites, with varying quantities of slate. The average thickness at the present depth, 176 fathoms perpendicular; is 19 feet. The stopping place extends over 807 square fathoms. The enclosing rock is a clay slate of tolerably uniform texture. The shafts, so called, for the whole of the lode has been excavated from the surface, are carried down at an inclination of about 45°, and the mineral is brought to the surface by tram carriages of peculiar construction, carrying large kibbles, containing a ton each. The mineral brought to the surface, is first freed from slate and other unproductive stones on the spalling floors, and the ore after being broken to a uniform size, is stamped fine. The rejected slate and quartz is removed by tramways to another establishment, (the second series of mills above mentioned) half a mile distant, and there employed to assist in the further pulverization of the refuse sand from the first stamping, which is restamped.

The stamping mills, as is also the pumping and other machinery, are moved by water power. The pulverized ore issuing from the stamp coffers, through finely perforated copper grates, passes over bullock skins, in the first instance, and lower down the inclined tables, over woolen cloths. The bullock skins are taken up and washed in vats every hour, and the woolen cloths at longer intervals. The concentrated sand resulting from washing the bullock skins is subsequently amalgamated in barrels.—*San Francisco Mining and Scientific Press.*

—*Herapath* says: "The export of rails from Belgium present a certain diminution, having been 10,314 tons in the first two months of 1869, against 11,526 tons in the first two months of 1868, and 12,893 in the first ten months of 1867. Before, however, an exact estimate—or anything like an exact estimate—can be formed of the condition of the Belgian rail trade, the data must be extended to a longer period. The rolling mills continue exceeding well employed, and when the statistical returns for the whole year are made up, they will doubtless reflect the activity which prevails.

Steel Rails.

At a time, hardly three years ago, when the price of steel rails was £15 per ton, many of the leading engineers of the kingdom, in discussing Mr. Price Williams' well known paper on Permanent Way, expressed their general concurrence in the policy of substituting steel in place of iron rails, in all renewals upon lines of heavy traffic. A little before that time the American railway companies were paying £24 14s. (\$120 gold) for steel rails delivered, duty paid, in New York. So convinced did they become as to the advantages of steel over iron, that the Pennsylvania Railroad Company had purchased nearly 12,000 tons of steel rails up to the end of 1868, the Erie Company had bought large quantities, the Hudson River Line, 144 miles long, is being wholly relaid in steel, the New York and New Haven, 76 miles long, is being relaid in steel as fast as renewals become necessary, and several other American companies have shown, by their practice, that even at the high price of steel, they consider it cheaper, in the long run, than iron.

In the meantime the price of steel rails has fallen as low as £11 10s to £12 per ton, without any corresponding decrease in the price of iron. If steel, at the higher price was preferable to iron, it certainly is so at the lower price. The price of steel, irrespective of patent royalties, may yet fall still lower, but to defer its use in expectation of such a fall would be simply to incur the greater wear and tear and greater or less danger of iron in the meantime. Should the price of steel yet fall to nearly that of iron, the former material would, no doubt, from its great and uncontested advantages, be preferred even on lines of moderate or little traffic, even where iron rails might, of themselves, last perhaps fifteen or twenty years. But upon that, now extensive, aggregate of lines on which iron rails last but from one to five years, the adoption of steel would be virtually compulsory.

To day, to morrow—every day this year and next—there will be found portions of line, here and there, which must be renewed at once. Railway companies are seldom, if ever in too great a hurry to renew rails. Nor should these be renewed as long as they are reasonably safe. But when once they begin to "go," to laminate, or to crush out at the ends, or at any point in their length, the process of final destruction is swift and sure. It is not only the business of a permanent way inspector to discover what rails are unfit to remain longer in the line, but to detect and keep his eye upon rails in an incipient stage of failure. There are always thousands of such rails in all old lines, and although they may often be trusted for a few months, more or less, especially in summer, it is akin to defying Providence to leave them, in any advanced stage of deterioration, in the line at the beginning of winter. Renewed they must be, and, in renewing them, the engineer of any works will be guided by his own judgment whether to lay down iron or steel. He will consider the question with regard not only to their relative first cost, but with regard also to the present and prospective traffic, and with regard to the relative durability and safety of the two kinds of rails. If, in this full consideration, steel appears to possess the advantage, after allowing for its present cost, no engineer would either defer his necessary renewals, or lay down iron, merely because steel would possibly be 17s. 6d. or 20s. cheaper after February next.

This is all we have sought to show, in one or two previous articles, which have drawn forth a characteristic reply from a journal whose conductors, for two years, printed everything, true and false, which they could find to discredit steel, and afterwards endeavored, by all the arts of puffing, to mislead railway engineers into the belief that a process, now known to have completely and hopelessly failed, would produce steel at a cost much less than by Mr. Bessemer's process. The *animus* thus betrayed during two or three years of tergiversation upon the steel question is too unmistakable to deserve any notice. But the probable future price of steel rails is not the less a question of interest to railway companies. After February 15th next a royalty of from 17s. 6d. to 19s. per ton will cease to be levied on the manufacture of steel rails, and, if all other conditions remain the same, they will then be to that extent cheaper than they are now. Further improvements may also be made, although steel masters see no chance of any at present; but any reduction of price, resulting from such improvements would be wholly independent of the question of royalty, and it would be as easy to assume also, that corresponding improvements would be effected in the manufacture of ordinary iron, in which case iron and steel would still remain upon their present relative footing as to cost.

Although such questions are to a great extent matters of forecast and judgment, there are reasons of fair weight, which any man of business can readily comprehend, while steel rails are not likely to be as much cheaper, after February next, as the amount of the royalty to be then taken off. First, the price of steel rails has already been brought as low as the keenest competition has been able to bring it, and it is well known that thousands of tons have been made without profit. Should railway companies order much more freely after February next, the inevitable effect, as proved by all experience, and inferable from the plainest principles of political economy, would be to maintain or to increase prices. In nearly all branches of trade, too, there has been long continued depression, and this, at last, appears to be passing away. Should our manufactures and commerce attain something like their former elasticity by next spring, as there is reason to believe they may, the effect would be at once manifested in an increase in the price of labor and materials sufficient to offset the abated royalty on steel rails, a royalty now amounting to from 8 to 9 per cent. of their cost.—*Engineering*, June 4.

PACIFIC RAILROAD—WHAT IS THE "MAIN LINE"—Extract from opinion of Mr. Hoar, Washington, July 13, 1869:

"I have given the question careful consideration, and am of the opinion that by the construction of the statue referred to, the main line of the Pacific Railroad intended in the eleventh section thereof commences at the one hundredth meridian, longitude west from Greenwich, and terminates at the eastern boundary of the State of California.

Very respectfully,

E. R. HOAR, Attorney General.

Keokuk is trying to get a railroad through to Mount Pleasant, to connect with the north and south road, via Washington and Iowa City, with Cedar Rapids.

The receipts of the North Missouri railroad for June were \$154,416, or an increase over 1868 for the same period of \$89,196.

PACIFIC RAILROAD—The following telegram, which we clip from the daily press indicates one of the results of the construction of the Pacific Railroad:

The Post Office Department of the North German Confederation has addressed a communication to our own Post Office Department, dated Berlin, June 20, stating in substance that it is its intention to have all its mail matters to and from the Pacific Coast, China and Japan, carried by way of the United States over the Pacific Railroad, and making inquiries on the subject of such arrangement. No reply has yet been made, but there is no doubt that the response will be satisfactory to the German Post Department. The time of transmission to and from Japan will be shortened ten days over the present system, but there will be very little, if any appreciable advantage as to the communication between Hong Kong and Germany.

RAILROAD BRIDGES—The falling of the bridge on the Louisville and Cincinnati R. R. last Saturday, by which two men were killed and fourteen others seriously wounded, has drawn attention to the subject of railroad bridges. In this instance a new bridge, said to have been built with great care, and after completion thoroughly tested, fell within a week after the public opening of the road, causing the death of two men and the serious wounding of fourteen others.

We are told that the engineer of the road and the engineer of the Louisville Bridge company have been investigating the matter, but have not been able to discover the true cause of the disaster. We suspect there was a radical defect in the construction of the bridge. It seems that it was an *experiment*, a combination of wood and iron, for which a patent has recently been obtained, and known among railroad men as the grasshopper bridge. The traveling public will be glad to learn that there is but one other bridge of the same kind on the Louisville and Cincinnati R. R., and that has been strengthened, and will be immediately replaced with the Fink patent bridge.—*Covington Journal*.

ARIZONA—The Prescott correspondent of the San Francisco *Bulletin*, writing under date April 25th, thus speaks of mining interests in that territory.

"What I have seen thus far exceeds all I ever saw in California or Nevada, and I have visited most of the mines on the Comstock Lode, and in Grass Valley and Amador. Compared with the Eureka in Grass Valley, the Galena makes, in proportion to the development, more show of ore, and ore which, if my information is correct, shows by a test of seventy-five tons double the amount of gold per ton.

WHAT ARIZONA WANTS.

If this country were opened up by the thirty-fifth parallel railroad, the section immediately around Prescott would produce more bullion than Nevada produces to day. I am not much of an enthusiast on mines—have always been a "bear"—but I must say that the sights I have seen here would induce me to go in on "feet" if I had the cash. The only drawback to the settling up of this section of country and the development of its vast resources is the lack of communication, and the fear of the Apache. Abroad they are regarded as fearful foes; here they are only considered dangerous from their cowardice—one settler considering himself a good match for fifty of them in an open fight."

RAISING THE FIGLIA MAGGIORE—The Austrian ship Figlia Maggiore, which was run into and instantly sunk off the Battery by the steamship Russia, on the 25th of May last, was successfully raised yesterday morning by the Atlantic Submarine Wrecking and Towing Company. The work of raising the vessel was commenced on the 5th of this month, but previous to that date the company were engaged in discharging the cargo by the aid of divers. The method employed to raise the vessel is new and interesting. Two large dismantled vessels, technically known as pontoons, with a lifting capacity of 1,400 tons each, were firmly fastened to each other by eight logs over three feet in diameter and 90 feet long, leaving a space between the pontoons of the width of the vessel to be raised. The pontoons were now filled with water, placed parallel to the length of the ship, one on each side, and fastened securely to her by chains. Several days were consumed in making these preparations, the tide being very strong at this point. The water was then pumped out of the pontoons by four steam-pumps, and the ship raised about ten feet. The rents in her sides will be repaired by divers, so that she can be freed of water and placed on the dry-docks for repairs. The work has been done under the immediate supervision of Capt. Waters, Superintendent of the Company, and is said to be the quickest piece of work of the kind ever done in this harbor.—*Tribune.*

RAILROAD TUNNEL IN CONSTANTINOPLE—M. Gavand, a French engineer, says the *Levant Herald* of the 3d June, presented sometime ago to the Porte a plan of a tunnel between Teke and Galata. A concession is about being granted. It will give passage to a single track railroad. The ascending cars will be drawn up by a stationary engine, and descend by gravity. American travelers should not pass through Lyons without studying the operation of the double track incline plane by which the inhabitants ascend and descend the high hill on which the silk quarter, or northern fauxbourg, of the city is built. It passes under a number of street bridges, and is worked by a stationary engine at the summit, of a perfectly satisfactory description. The transit is made rapidly, smoothly, frequently—every three minutes if we remember well—and is the greatest imaginable convenience to the work people above and the merchants below. There is no good reason why Brooklyn, Cleveland, Cincinnati and other cities of the United States should not copy Lyons.

—From Ft. Sherman, and over the Laramie Plains, for 200 miles westward, double snow fences of stones—or one of stones and the other of boards—follow the north side of the track. The Chief Engineer and Superintendent express themselves as sanguine that after a year or two of experience they can overcome this enemy, so that no strain need be delayed more than 24 hours.

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BACON'S PATENT

This Ticket Case having come into extensive use during the past two years, we would call the attention of those interested to its advantages: It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the long-end package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2 1/2 inches in width, and under. For Tickets over 2 1/2 inches in width.

SIZE NO.	OF FORMS.	PRICES.	SIZE NO.	OF FORMS.	PRICES.
1	64	\$37	11	64	\$38
2	96	40	12	96	42
3	144	46	13	144	48
4	192	54	14	192	57
5	256	62	15	256	65
6	320	70	16	320	76
7	400	80	17	400	85
8	500	90	18	480	95
9	600	100	19	600	110
10	720	115	20	700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms, and also with working plans, if desired.

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167 Walnut St., Cincinnati,

R. W. CARROLL & CO.

Wholesale and Retail

BOOKSELLERS AND STATIONERS,

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Keep always in stock a full assortment of

BOOKS & STATIONERY AT LOWEST PRICES.

BLANK BOOKS

Of any desired pattern made to order promptly.

Particular attention paid to BLANK BOOKS and BLANK WORK for

RAILROADS,

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PUBLIC OFFICES, Etc., Etc.

BINDING OF ALL KINDS NEATLY EXECUTED.

Those desiring FIRST CLASS BOOKS can have them done satisfactory at reasonable prices.

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WM. MERCER, R. B. MORE, GEO. STODDARD
Late Master Car Builder C.H. & D. & D.M.

MERCER, MORE & CO.,

BUILDERS OF EVERY DESCRIPTION OF

RAILROAD CARS

Cambridge, Ind.

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MATH, Pres't, C. & I. C. Railway, Columbus, O.
M. RIDENOUR, Pres't, C. & I. J. R. R. College Cor., Ind.
J. M. LUNT, Sup't, C. & I. C. R. R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C. H. & D. R. R., Cincinnati.
J. H. WELLES, Ass't Sup't, D. & M. R. R., Dayton, O.
D. McLAREN, Gen'l Sup't, A. & G. W. R'y, Cincinnati.
J. F. LINCOLN, Ass't Sup't, C. & I. J. R. R., Hamilton.
C. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., India: at Aug. 2, 1886.]

THE

STEAM SYPHON PUMP

IS THE

Most Simple, Effective and Durable Device for Raising Water by steam, yet discovered.

It is an independent LIFT AND FORCE PUMP, without piston, plunger, valve, or movable parts of any kind.

IT CANNOT GET OUT OF ORDER, OR FREEZE UP, WITH THE

STEAM SYPHON WATER-STATION

a locomotive can raise water, with its own steam, to fill its tender in the same time as from an ordinary tank; thus dispensing with tanks, pumping machinery, and men to attend them.

IT IS AN EFFICIENT

FIRE-ENGINE,

wherever steam power is used; as at Machine Shops, Elevators, &c.,

AND BY FAR,

THE BEST BILGE PUMP,

for Steam Vessels, in use

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Kentucky & Tennessee,

FOR SALE BY

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ERIE RAILWAY.

1400 MILES under One Management. 860 MILES without Change of Coaches.

BROAD GAUGE, DOUBLE TRACK ROUTE

FOR—

NEW YORK, BOSTON,

Providence, Albany,

PITTSBURG, HARRISBURG

Philadelphia, Baltimore,

And Principal Points in

NEW YORK, NEW ENGLAND

—AND—

Pennsylvania.

This Railway extends from

CINCINNATI to NEW YORK, - 860 Miles.

CLEVELAND to NEW YORK, - 625 Miles.

DUNKIRK to NEW YORK, - 460 Miles.

BUFFALO to NEW YORK, - 423 Miles.

ROCHESTER to NEW YORK, - 385 Miles

AND IS FROM

22 to 27 MILES the SHORTER ROUTE.

TWO EXPRESS TRAINS DAILY

Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS,

(Sundays excepted.) Arrive Dayton 9.10 A. M.; Urbana, 10.28 A. M.; Galion, 1.00 P. M.; Mansfield, 1.41 P. M.; West Salem, 2.47 P. M. (Dine); Akron, 4.22 P. M.; Ravenna, 5.00 P. M.; Meadville, 8.00 P. M.—(Sleeping Coach through to New York); Susquehanna, 7.55 A. M. (Breakfast); Turner's, 1.42 P. M. (Dine); New York, 3.00 P. M. Connects at Ravenna with Cleveland & Pittsburgh Railroad for Hudson and Cleveland; at Birmingham for Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.25 A. M.; Galion, 4.05 A. M.; Mansfield, 4.50 A. M.; Akron, 7.32 A. M.; Ravenna, 8.16 A. M.; Leavittsburg, 9.00 A. M. (Breakfast); Meadville, 11.30 A. M.; Hornellsville, 6.14 P. M. (Supper); New York, 6.30 A. M. Connects at Mansfield with Pittsburgh, Ft. Wayne & Chicago Railway for Pittsburgh, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities.

New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through **860 Miles without Change.**

Boston and New England Passengers, with their Baggage, are transferred FREE OF CHARGE in New York.

If The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street, New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

If The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

Baggage Check'd Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY,

Which can be obtained at the Company's Offices in Cincinnati, 80 West Fourth Street, 115 Vine St., 4 Burnet House, and foot of Broadway. (Spencer House Block) and at all principal Ticket Offices in the South and South West.
L. D. BUCKER, General Sup't. **WM. R. BARR,** Gen'l Pass'r Ag't.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1886, three Express Trains will leave New York daily (Sundays excepted) via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a. m. and 18:00 p. m. On Sundays, one Express Train at 8:00 p. m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change; cars to Chicago or Cincinnati, and but two to St. Louis. Passengers front the East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving this City. Fares always, as low as by other Lines. State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. E.)

7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p. m., Pittsburg 12 night

9:00 a. m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 4:30 p. m. Without change of cars from New York to Harrisburg.

5:00 p. m.—EVENING EXPRESS, for the West with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a. m. next day.

3:00 a. m.—EXPRESS TRAIN, from the West, leaving Pittsburg at 4:30 p. m.; passes Harrisburg at 3:00 a. m.; Reading at 4:49 a. m.; Allentown at 6:00 a. m.; Easton at 7:09 a. m. Through cars from Pittsburg to New York.

9:05 a. m.—FAST LINE, from the West, leaving Pittsburg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Reading at 10:52 a. m.; Allentown at 12:2 p. m.; Easton at 1:10 p. m. Through cars from Pittsburg to New York.

7:25 a. m.—WAY TRAIN, from Harrisburg, passing Reading at 10:40 a. m.; Allentown 12:30 p. m.; Easton at 1:35 p. m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p. m.

2:10 p. m.—FAST M. T. from the West, leaving Pittsburg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Reading at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at 7:20 p. m. Through cars from Harrisburg to New York. Arrives in New York at 8:45 p. m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive
St. Louis & Chicago Ex.	7.00 A. M.	9.10 A. M.
Springfield & St. Joseph Ex.	12.00 P. M.	4.30 P. M.
St. Louis & Chicago Ex.	4.55 P. M.	12.15 A. M.

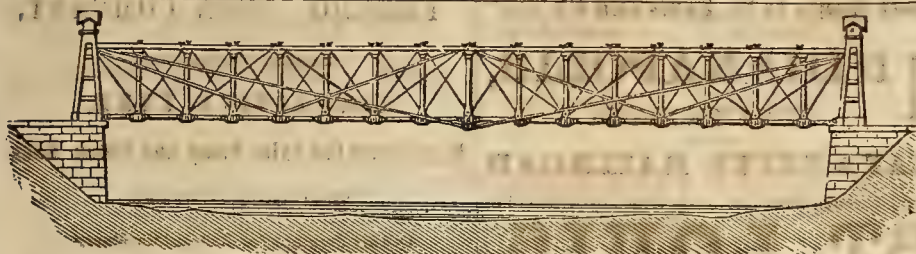
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation	5.15 P. M.	5.05 A. M.
Harrison Accommodation	10.10 A. M.	2.25 P. M.

Through Tickets can be obtained at the Burnet House, Spencer House and Gibson House offices; also at the Depot. The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

THE undersigned is prepared to manufacture and build in any part of the United States, and at reasonable terms,

FINK'S PATENT IRON BRIDGE,

—In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

—For plans and particulars, apply to

C. J. Schultz, Pittsburgh, Pa.

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MATTHEW BAIRD.

M. W. BALDWIN & CO.

ENGINEERS,

Broad and Hamilton St. Philadelphia, Pa.

Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business, for which they may be required, by the use of one, two, three or four pairs of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and all the work to be done. By this means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and construction of all the details. Our long experience and opportunity of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability, they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tires (to fit centers without boring), Composition Castings for Bearings; every description of Conner, Sheet Iron and Boiler Work; and every article pertaining to the repair or renewal of Locomotive Engines.

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ENGINEERING & TELEGRAPHIC

INSTRUMENT MAKERS

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AMERICAN BANK NOTE COMPANY.

Bank Note Engravers & Printers.

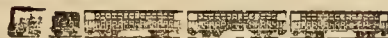
Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

Constantly on hand, Bank Note Paper, made to order, of superior quality.

The above office is under the supervision of
GEORGE T. JONES
S. E. Cor. Fourth and Main Sts.

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton and Little Miami Railroads still continues to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bill of Lading or any information desired shippers will please apply to

H. W. BROWN & CO.,

No. 27 W. 3d St., Cincinnati.

W. P. SHINN, General Freight Agent.

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Pittsburg, Pa.

CUMBERLAND COUNTY

OIL LANDS,

NEAR

The Great Crocus Well,

WITH

Productive Wells all

around them.

FOR SALE BY

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167 Walnut Street,

CINCINNATI.

MANUFACTURERS, IMPORTERS & DEALERS

Railroad, Car and Machine Shop

SUPPLIES,

MACHINERY OF EVERY DESCRIPTION

68 Broadway, New York,

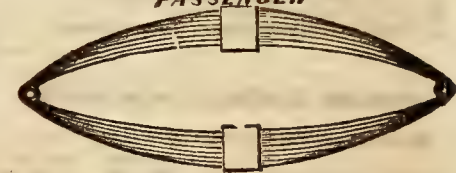
121 West Front Street, Cincinnati.
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PERKINS, LIVINGSTON & POST

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and the best MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.

Shops—Seventeenth and Coates St. PHIL.

BUSH & LOBDELL,

Chilled Railroad Car Wheel, Ty

—AND—
Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly to suit the customer for the best celebrated Wheels, either single or double flange with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner, on the shortest notice, and on the most reasonable terms.

GRAND SCENERY!

QUICKEST ROUTE

59 Miles in Distance Saved.

Baltimore & Ohio R.R.

-TO-

BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,

WITH THE PRIVILEGE OF GOING TO

WASHINGTON

FREE!

NO CHANGE OF CARS

From Cincinnati or Columbus to Baltimore and but ONE CHANGE to Philadelphia and New York.

Ask for TICKETS and BAGGAGE CHECKS via Baltimore & Ohio R.R.

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
G. B. GIBSON, General Western Passenger Agent.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit..	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail..	7 00 A. M.	5 25 P. M.
Richmond & Chicago..	7 00 A. M.	9 20 P. M.
Dayton, Bellefontaine and Richmond..	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada..	6 00 P. M.	10 30 A. M.
Hamilton Accommodation..		6 45 A. M.
Richmond & Chicago..	7 00 P. M.	9 20 A. M.
Hamilton Accommodation..	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; or at the new office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.

JANUARY 5th, 1868.

Cincinnati to St. Louis Without
Change of Cars.

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

RAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI..	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR..	12 00 m.	2 00 a.m.	8 10 p.m.
Leave " " " " " "	12 20 p.m.	2 10 "	
Arrive VINNENES..	5 15 "	6 35 "	
Leave " " " " " "	5 20 "	6 40 "	
Arrive ODIN..	9 35 "	10 30 "	
Leave " " " " " "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL..	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS..	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O. H.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine Street, Corner Front and Broadway and at Depot, Foot Mill Street.

J. E. FOLLET Gen. Passenger Agent
J. W. CROGUE, General Superintendent

Best Route to St. Louis and Chicago

INDIANAPOLIS,

CINCINNATI

-AND-

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,

CAIRO,

CHICAGO,

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West, North-west and South-west.

5 THROUGH TRAINS DAILY,

(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express..	7.00 a.m.	10 50 p.m.
Indianapolis and Cairo Express.....	6.20 a.m.	2 30 a.m.
Cairo and St. Louis Express.....	3.00 p.m.	4.08 p.m.
Springfield, Quincy and St. Joseph Express.....	3.00 p.m.	4.08 p.m.
Chicago Lightning Express.....	6.50 p.m.	11.30 a.m.
St. Louis Lightning Express, Sunday		
instead of Saturday night.....	11.00 p.m.	6.15 a.m.

No change of cars between Cincinnati, St. Louis and Chicago.

Elegant Sleeping Cars on all night trains.

ACCOMMODATION TRAINS.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.10 a.m.	8.35 a.m.
Harrison.....	5.30 p.m.	9.15 a.m.
Lawrenceburg.....	4.40 p.m.	2.10 p.m.

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.

A. E. CLARK, General Ticket Agent.

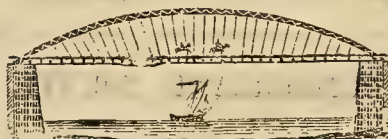
MOSELEY'S WROUGHT IRON ARCH

BRIDGES,

AND

CORRUGATED IRON ROOFS

ARCHED AND FLAT.



CORRUGATED SHEETS, OF ALL SIZES, CONSTANTLY ON HAND, PAINTED, AND READY FOR SHIPMENT, WITH INSTRUCTIONS FOR APPLYING THEM.

MOSELEY & CO.
Boston, Mass.

EDWIN J. HORNER,

Successor to

McDANIEL & HORNER,



Locomotive and Railroad

CAR SPRING MANUFACTURER

Wilmington, Delaware

FREEDO IRON COMPANY,

MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engine and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn

JOHN A. WRIGHT, Sup't.

This Iron is all made from best Juniata cold-blast charcoal Pig Iron refined with Charcoal in the old-fashioned Forge Fire, hammered into a Bloom from which Iron is hammered. The whole operation from ore to finished Iron is conducted at our own Works June 9

THE SCHENECTADY

LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.,

Continued to receive orders and to furnish with promptness the best and latest improved

COAL OR WOOD BURNING

LOCOMOTIVE ENGINES

AND OTHER

Railroad Machinery, Tires, etc.

-AND ALSO TO-

Rebuild and Repair Locomotives.

The above works being located on the New York Central Railroad, near the center of the State, possess superior facilities for forwarding their work to any part of the country without delay.

JOHN ELLIS, President.

WALTER McQUEEN, Sup't.

PASCAL IRON WORKS.

ESTABLISHED 1821.

MORRIS TASKER & CO

MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler Flues—from 1½ to 10 inches outside diameter, cut to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to 8 inches inside diameter, with screw and socket connections, for Steam, Gas Water, or other purposes, and fittings of every kind to suit the same.

Wrought Iron Galvanized Tubes—strong and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—4 to 24 inches in diameter, and branches for same, &c., &c.

Gas Works Castings, etc., etc.

PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER
THOS. T. TASKER, JR., S. P. M. TASKER
HY. G. MORRIS.Philadelphia, Wilmington & Baltimore
RAILROAD!

FOUR PASSENGER TRAINS DAILY

TRAIN LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays: 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. Express

SUNDAY TRAINS—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave at Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD,
T. WRIGHTSON. } Editors

CINCINNATI:
THURSDAY, JULY 29, 1869.

THE RAILROAD RECORD,
PUBLISHED EVERY THURSDAY MORNING,
BY WRIGHTSON & CO.
OFFICE—No. 167 Walnut Street
SUBSCRIPTIONS—\$3 Per Annum, in Advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.
One square, single insertion..... \$ 1 00
" " per month..... 3 00
" " six months..... 12 00
" " per annum..... 20 00
" " column, single insertion..... 5 00
" " per month..... 10 00
" " six months..... 40 00
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" " six months..... 110 00
" " per annum..... 200 00
Cards not exceeding four lines, \$5.00 per annum
WRIGHTSON & CO.,
Proprietors.

Arrival and Departure of Trains.

ERIE, AND ATLANTIC & GREAT WESTERN.
Morning Express leaves 6:00 A. M.; arrives in New York 3:15 P. M., next day.
Fast Express leaves 9:15 P. M.; arrives in New York 7:00 A. M. second morning.

LITTLE MIAMI.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	3:15 P. M.
Fast Line.....	4:00 P. M.	10:00 P. M.
Lightning Express.....	10:00 P. M.	6:00 P. M.

MARIETTA AND CINCINNATI.

	DEPART.	ARRIVE.
Baltimore and Washington City		
Fast Line.....	6:45 A. M.	9:50 P. M.
Through Night Express.....	10:35 P. M.	5:30 A. M.
Hillsboro Accommodation.....	2:40 P. M.	10:15 A. M.
Loveland Accommodation.....	5:30 P. M.	7:55 A. M.

CINCINNATI, HAMILTON AND DAYTON.

	DEPART.	ARRIVE.
Eastern Express (A. & G. W.)....	6:00 A. M.	5:25 P. M.
do do do.....	9:15 P. M.	6:00 A. M.
Toledo, Detroit & Canada.....	6:15 A. M.	10:25 P. M.
do do do.....	7:00 P. M.	7:25 A. M.
Lima, Ft. Wayne & Chicago.....	6:15 A. M.	10:25 P. M.
do do do.....	2:30 P. M.	6:40 P. M.
do do do.....	7:00 P. M.	7:25 A. M.
Sandusky, Cleveland & Buffalo.....	6:15 A. M.	6:40 P. M.
do do do.....	7:00 P. M.	10:0 A. M.
Connersville & Indianapolis.....	6:15 A. M.	10:25 P. M.
do do do.....	2:30 P. M.	4:15 P. M.
Connersville & Newcastle.....	6:00 P. M.	10:20 A. M.
Hamilton, Eaton & Richmond.....	6:15 A. M.	10:25 P. M.
do do do.....	5:00 P. M.	10:36 A. M.
Hamilton Accommodation.....	9:30 A. M.	8:05 A. M.
do do do.....	6:00 P. M.	6:50 A. M.

CINCINNATI AND INDIANAPOLIS JUNCTION.

	DEPART.	ARRIVE.
Connersville, Rushville and Indianapolis Mail.....	6:15 A. M.	10:20 P. M.
St. Louis and Indianapolis Exp.....	2:30 P. M.	4:15 P. M.
Cambridge City and Newcastle.....	6:15 A. M.	10:0 A. M.
Cambridge City and Newcastle.....	6:00 P. M.	10:25 P. M.

CINCINNATI, SANDUSKY & CLEVELAND.

	DEPART.	ARRIVE.
Day Express.....	7:00 A. M.	7:00 P. M.
Night Express.....	5:45 P. M.	10:20 A. M.

CINCINNATI, COLUMBUS & CLEVELAND.

	DEPART.	ARRIVE.
Lightning Express.....	7:00 A. M.	5:00 P. M.
Express Mail.....	9:45 A. M.	6:00 A. M.
New York Express.....	10:00 P. M.	5:00 P. M.

INDIANAPOLIS, CINCINNATI AND LAFAYETTE.

	DEPART.	ARRIVE.
St. Louis & Cairo Express.....	6:30 A. M.	8:45 A. M.
Springfield Express.....	3:40 P. M.	3:48 P. M.
St. Louis Lightning Express.....	11:00 P. M.	1:15 A. M.
Lawrenceburg Accommodation.....	10:00 A. M.	2:35 P. M.
do do do.....	4:45 P. M.	8:10 A. M.
Franklin, Martinsville & Gosport.....	6:30 A. M.	3:48 P. M.

VIA WHITE-WATER VALLEY.

	DEPART.	ARRIVE.
Chicago & Cambridge City Express.....	7:00 A. M.	10:00 A. M.
Harrison Accommodation.....	6:05 P. M.	6:42 A. M.
Chicago and Cambridge City.....	6:30 P. M.	10:15 P. M.

OHIO AND MISSISSIPPI.

	DEPART.	ARRIVE.
For St. Louis, Cairo.....	7:00 A. M.	6:00 A. M.
Evansville and Louisville.....	5:10 P. M.	9:40 P. M.
do do do.....	10:15 P. M.	11:15 P. M.
Only Sunday trains are 5:10 P. M., leaving, and 6 A. M. arriving.		

KENTUCKY CENTRAL

	DEPART.	ARRIVE.
Express.....	6:00 A. M.	6:00 P. M.
Lexington Express.....	2:00 P. M.	10:50 A. M.
Falmouth Accommodation.....	4:45 P. M.	8:55 A. M.

Cincinnati Southern Railway,

AS CONNECTED WITH THE

POLITICAL CANVASS IN KENTUCKY.

The first speaker introduced at a political meeting in Newport, Ky., July 30, was Mr. THOMAS WRIGHTSON, candidate for the State Senate, who spoke as follows:

"Gentlemen and Fellow-citizens:—I appear before you this evening as the standard-bearer of the Republican party of Campbell County in the approaching canvass. And in presenting myself to you for this important office, I do so for the first time for any office in the gift of the people of this county. It has not been proposed, neither has it been forced upon us by our opponents to discuss the great leading national questions of the day. All those have been decided by events that are past and gone. They no longer agitate this great land. They have been met upon the battle field; they have been decided at the point of the bayonet, and by the roar of cannon. Kentucky stands to-day almost alone as the last remaining pillar and bulwark of a barbarism that has been swept away by the blood of your brothers and comrades.

"What is it then to which this canvass has been narrowed down between us and our opponents? They have not undertaken to touch upon any great issues. They have had no dispute with us; it has been all with themselves, and as it is not our fight, we propose to let it alone.

"At the present time we want to look at the things really of the greatest importance to you and to me, to our wives, our daughters and our sons. What is it that we can do to advance the interests of this growing and fast improving town? What is it that we can do to improve our broad country, rich in its products, rich in its bottoms and its hill-lands? What will be to the advantage of our great and growing, but pent-up and cramped up State? The great works of internal improvement, the construction of blast furnaces and rolling mills, the erection of factories to give employment to the thousands of laborers that come to our shores, the building of railroads, the improving of our rivers; these, gentlemen, are the great questions that should now attract our attention.

"We are told that Cincinnati has put her hands in her pockets, and is about to bring out ten millions of dollars—and for what? Why, gentlemen, it is to build a railroad to let daylight through the heart of Kentucky. Kentucky, to-day, has fewer railroads than any State in the Union, and the interior of our State is further away from Newport or Cincinnati than is the State of California. California can be reached with more ease, with less labor and fatigue, than can the interior of the State of Kentucky. What is the reason? There have been no Rocky Mountains or Sierra Nevadas to be crossed. Kentucky has been barred up, in her progress to greatness and to wealth, by something that has been more difficult to approach, to tunnel, or to scale, than

either the Rocky Mountains or the Sierras. The time has now come for a change. The civilization of the nineteenth century demands a pathway through.

"The railroads of this country, over 40,000 miles in length, have been built, almost all of them, since every man upon this sward was born; and the telegraphs of this country, that now flash intelligence around the world, has all been made within the last twenty-five years. This is an age of progress. This land of boasted liberty and freedom has been made free indeed within the last decade; and now, as we are advancing in ideas, let us also advance in material progress, and when Cincinnati comes here with her ten millions of dollars and wants to lay her iron pathway across the State of Kentucky to send the products of your workshops and factories to the South for sale, she will not do it unless she brings you back the money. We have our homes here, and pay our taxes here. Cincinnati wants to spend her money here; and you, without being liable for the risk she runs—and I don't think it will be a very great one—will get the benefit of her enterprise. Is not that a fair proposition? We anticipate that the voice of the people, on next Monday, will improve this opportunity to open up a pathway for commerce, and to let out the products of your labor.

"Then there are some other results to follow from this great enterprise. The hills of Kentucky are as rich as those of Pennsylvania or Virginia in mineral wealth, and every thing that can make a great State. I have been informed that a blacksmith has knocked off chunks of ore from the hills in our State, taken them to his anvil and made them into horse-shoe nails. Kentucky has ore unequalled by any State in the Union. To-day I saw teams loaded with ore brought from Lake Superior, 1,500 miles away, and occasionally we see ore brought from Missouri and taken to your blast furnaces to be worked up into the ordinary pig iron, and finally molded into various works of art and handicraft. Why, we have got the metal right here, close at home. We can get it in our own State, without sending our money away to pay for it. We can employ the labor that is now idle in the digging of it out of the earth. We can save in the cost of its transportation. We can manufacture it up in the work-shops of this town and of Cincinnati, and we can take it back again to the South and sell it cheaper and better than can any one else. And this is not all. Those fair hills that are emboweled with this rich ore are also rich on their tops. They will make homes for the thousands that are coming every day from their father lands, from Germany, from England, from Ireland. They can, if they have railroad transportation, bring the products of the soil to you who labor in the shops and founderies of the city. And they can do it for less money than it costs now, for the greater the increase of the products of the earth, the cheaper is your bread. Civilization is making rapid inroads upon old forms and customs; the old order of things is giving way, and we now move over this conti-

nent by locomotive power, and when we can not stop to do that we send our intelligence by the telegraph, and sometimes it will beat time itself. This is a big country, I tell you; the times in which we live are moving on, and the man that stands still will be crushed by the great moving crowd of live, active business men.

"Gentlemen, this is the platform on which I stand. It is the platform given me by my party. It is the first and most important resolution of their platform, and I stand upon it to-day—the working men's platform. [Applause.] It has been said that I am not known in this county, that I am a carpet-bagger. I think I may say to those who have said this that by next Monday they will know that somebody knows Tom Wrightson. [Cheers. A voice, 'If you hadn't paid your debts plenty would have known you.' Another voice, 'You never was in the banking business.' Laughter.] That is true. I never have been in the banking business. One of my opponents, however, has been, and many of my friends, I think, hold some of the valuable notes issued by the institution—the Newport Safety Fund Bank.

"The Democratic party, at Alexandria, on the 12th of June, passed a resolution that they were in favor of hard money; that hard money was better than shipplasters or any kind of notes. I think there is not a man in this crowd that will not say amen to that sentiment. But in reference to these shipplasters, that are in circulation now, I want to say that I have a farm in the country which is pledged for every dollar of greenback notes that the Government has issued, and so is every body's farm, or house and lot. The notes issued by our National Government are the best money ever issued on this earth, and every dollar of it will be redeemed. [Applause.]

"I understand that Col. Thos. L. Jones, the representative of the Taylor family, made a big speech the other day on *finances*, and the family quarrel in the Democratic party; that he pledged the one-half the fortune of Col. Taylor to the success of the McArthur division. As Col. Jones has so large an amount of means at his command, and the party has resolved in favor of good hard money, it would be a good time now to bring out those mementoes of the past that some of you have stored away and counted upon as worthless—the small notes of the Newport Safety Fund Bank, of which James M. McArthur was president. I have some of them, and I would be glad to exchange them for hard money. [Applause.]

"Col. Jones, I understand, advocates repudiation of our *National* obligations. This is something that honest men can not agree to. As your house and lot and my farm are pledged for their redemption, sooner than pronounce the accursed word—repudiation—let the government get out its hand bills and sell my farm, your house and lot, and that half of Col. Taylor's fortune, pledged to carry this election, (for it may as well go for an honest purpose as a corrupt one,) and let us pay the debt made sacred by the blood of patriots and the salva-

tion of our country and her liberties. [Loud Applause.]

"As I said before, although I have lived amongst you for thirteen years, have been all the time a property holder, and paid my taxes, and have rode in my buggy and on horse seventy-five thousand miles in your county, I am still called a carpet bagger! Why, I was a property holder and a resident of the county when Mr. Daly cast his maiden vote for James Buchanan, and I might mention the fact, in addition, that we have had seven babies born in our house, and every one a Kentuckian. How long, gentlemen, is it necessary for me to live here to become a citizen? Mr. Hallam said that Wrightson was to all intents and purposes a Cincinnati, and that he came home to sleep. I think I have given good evidence of that fact. [Laughter.]

Mr. Daly says that Mr. McArthur is not fit to be State Senator, that he is a fossil, petrified, and of no earthly use. Now the real use of a fossil is, after it has been fixed up, cleaned and varnished, by some scientific searcher after knowledge, to put on a shelf. If Mr. Daly is correct in his estimate of his opponent Mr. McArthur, that is the best use you can make of him. On Monday night you will find him "put on a shelf." Mr. Daly says, further, that the kind of man you want to send to Frankfort, is a live, active, scheming, energetic and intelligent man. Now, I do not like to talk about myself; it is not very modest to do so. Mr. Daly did not tell you whether he possessed these qualifications or not. He left you to judge of these things yourself, and I will do the same thing."

Mr. Wrightson here read an extract from the *Commoner*, concluding as follows: "You had better give ten votes, to James M. McArthur than one to Thomas Wrightson."

Mr. Wrightson thought that was good Democratic doctrine, and concluded his remarks by thanking his audience for the attention they had shown him.

RAILWAY NEWS.—STURGIS, MICH., July 21.—At the annual meeting of the stockholders of the Grand Rapids & Indiana Railroad Company, held this day, the following named gentlemen were elected Directors: George H. White, of Grand Rapids; James A. Walters and Israel Kellogg, of Kalamazoo; Richard Reed and Jonathan G. Wait, of Sturgis; William S. Boyd, of Lagrange; Joseph K. Edgerton and Pliny Hoagland, of Fort Wayne; Mancil Talcott, of Chicago. The new Board were sworn into office, and organized by electing Jos. K. Edgerton President, Jno. M. Godown Secretary, and Samuel T. Hanna Treasurer.

It is supposed that the South will this year sell 3,000,000 bales of cotton for as much as 6,000,000 would have brought before the war, and that in the year 1870 she will be richer than she would be had not the war occurred, and had slavery continued. We always believed that in the long run the war would prove an immense benefit to the South. She will soon see it in this light, and feel obliged to the North for giving her a "sound thrashing."

The Lake Superior Trade.

SUPERIOR, Douglas County, Wis., July 7.—The St. Louis River and tributaries after draining an area of 6,000 square miles, comes in at the head of Lake Superior, through a bay seven miles long, one mile wide, and twelve feet deep. To utilize this Bay of Superior the General Government is protecting the points which bound it—one seven miles in length from the Minnesota shore, and the other, from the Wisconsin side, five miles, leaving the entrance to the bay between 300 and 400 feet in width, through which flow the united volume of the St. Louis and Nemadji Rivers, emptying, in ordinary times, not less than 20,000,000 cubic feet of water per hour, and, at Spring flood, five times as much, cutting daily deeper and straighter the channel from the lake into this harbor, so that now, after but a season's action, steamers and sail craft come in and go out without halt or check. The Bay of Superior is at the western extremity of the great lakes, at the geographical center of the grain producing section of the country, 80 miles from the head of steamboat navigation on the St. Croix River; 140 miles from Minneapolis, St. Anthony and St. Paul; like distance from St. Cloud and Crow Wing, Upper Mississippi, and 250 miles from the Red River of the north. The country between the bay and the places named above is all highly favorable for railway construction. Although the coast range of Lake Superior attains an average elevation of at least 600 feet above the lake, within three or four miles of the shore, the valley between the St. Louis and Nemadji Rivers rises nowhere more than 40 feet to the mile, and reaches the level of the land near the lake at a distance of 30 miles from the Bay of Superior, and this point is to be the eastern terminus of the North Pacific Railroad's trunk line, while from it will diverge branches to Bayfield and Duluth. The Bayfield line will extend through the copper and iron ranges of the south shore and thence from Eastern connections at Sault St. Marie, Mackinaw and Detroit. The Duluth route will open up the region of the slate quarries, and extending down the north shore of the St. Louis River and the lake touch the copper region of Minnesota, the silver mine of Fort William, and the gold fields of Vermillion.

WHERE THE ELEVATORS MUST BE.

The construction of the Mississippi and Lake Superior Railroad, now under contract and to be built under the auspices of the Pennsylvania Central will secure the agricultural traffic of Minnesota and North-western Wisconsin, including a section of country which now produces a surplus of 7,000,000 bushels of grain, though not one-fourth of it is as yet under cultivation; this grain by the new route will be subject to railway tariff on 200 miles or less, while the distance is 300 miles and over from Lake Michigan. Add to the above the products of the Upper Mississippi and Red River valleys, and the corn exchange of Superior must soon compete with that of Chicago and Milwaukee, and in ten years there will be elevated and transhipped there annually more wheat than at any other place in the world. The surface of Lake Superior is 600 feet above the ocean, while its bottom averages 300 to 400 below, making its depth 900 feet; it is 400 miles long, and has an area of 42,000 square miles; its temperature, 46° in Summer 44° in Winter. Heavy winds cause a rise or fall of only a foot and a half, or less, at either end of the lake. The coast survey

and other records show an average of 265 days annual navigation from the Bay of Superior, which is above the average of harbors like this, having no large streams; the force of the current through the entry, and as now confined by the piers, dislodges the ice, so that a wheat elevator at the mouth of the Nemadji, or at the ends of Minnesota and Wisconsin Points, will discharge to vessels often a month later in the Fall and earlier in Spring than from harbors destitute of such inlets.

The distance from Superior to Buffalo is practically the same as from Chicago, not 50 miles more; the Sault Canal locks and the river below may, however, increase the cost of transportation a mill per bushel over that of Chicago shippers. The mining districts around Lake Superior afford a constant market for many commodities, such as potatoes, oats, hay, and coarse feed, which will not bear transportation through Lake Michigan, and a home market for beaves and pork not enjoyed on the latter lake.

RAILWAY CONNECTIONS.

The opening of the Mississippi and Superior Railway already draws an amount of Summer travel second only to that of the Union Pacific; and already emigration from Canada to the British settlements on Red River takes the route through Superior and thence to their destination with teams. On the 5th of July inst., without concert, there were collected there, beside hundreds of strangers celebrating the day, and boat riding on the lake and its tributaries. Gens. Dent, Walbridge, and Breckinridge, Col. Knight, Capt. Cnyler, and others from Canada, New England, New York, Pennsylvania, Kentucky, Ohio, and elsewhere, and all joined in declaring that the opening of this thoroughfare inaugurates an era in North American commerce not less important than DeWitt Clinton's achievements. That brought into commercial intercourse with New York a territory North-west of the Ohio equal to five times that of the State of Ohio; this Bay of Superior is the outlet of an arable field equal in extent to ten times that of Pennsylvania; rich in lumber, iron, slate, copper, silver, and gold. This development so soon to be appreciated, has for its champions men of the best of railway and financial ability—J. Edgar Thompson and Jay Cooke—who have made themselves familiar with all the facts above stated and the subordinate details. No better guarantee of progress and early completion could be desired. They have, on the other hand, a guarantee in elements of traffic which insure to them a paying investment, beside a land grant of 17 sections of land per mile, covered with groves of pine, and containing rich deposits of mineral, iron, copper and slates, while but a fraction of it is poor land. They will begin with an annual exportation equivalent to 10,000,000 bushels of grain, and will do the importing for half a million of population; their grain and cattle cars will always return to the Mississippi loaded with lumber, slates, and iron. This business will amount the first year to not less than one million tons once over the road, to which add a reasonable amount of travel, and they have the best paying 150 miles of railway in the new States.—*N. Y. Tribune June 17.*

ST. PAUL & SIOUX CITY RAILROAD.—The company sold last month 20,000 acres of their lands in Minnesota. The agent at Madelia in one day sold nearly 2,000 acres, the consideration being about \$14,000. These sales are made to actual settlers, and mostly in 80 acre tracts.

The Northern Pacific Railroad.

Within eight months of the present time ground will undoubtedly be broken for the construction of the Northern Pacific Railroad, which is to extend from Duluth, at the head of Lake Superior, 1,774 miles to Seattle on Puget Sound, thus forming the shortest possible link between the waters of the Pacific Ocean and those of our Northern Lakes. The Northern Pacific Railroad Company was chartered by Congress during the administration of President Polk, and the leading spirits in the enterprise were Southern politicians and capitalists. John C. Breckinridge, Beriah Magoffin and several other members of the Kentucky political "ring" being among the projectors. Before the outbreak of the Rebellion the franchise of the Company passed into Northern and loyal hands. Governor James Gregory Smith, of Vermont, is the President of the Company. The Northern Pacific Railroad has a magnificent land endowment but, thus far, no loan of Government credit. No Government bond subsidy, such as that granted to the Central and Union Pacific, will be asked for the Northern line. The grant of Government lands already made by Congress to the Northern Pacific Road consists of ten alternate odd-numbered sections, or 12,800 acres, per mile through the States of Wisconsin and Minnesota, and twenty alternate sections, or 25,600 acres, per mile through the territories. Along the main line and its branches this grant embraces nearly fifty million acres of untouched soil, stretching in a belt thirty miles wide, from Lake Superior to tide-water on the Pacific slope. For the first hundred miles west from the Eastern terminus the road will pass through an almost unbroken pine and hard wood forest, and for seven hundred miles more it will traverse a region of rolling prairie interspersed with timber, which is the very home of winter wheat, and which will, before many years, furnish bread to millions of people living in more Southern latitudes. Then comes the mountain region of Montana and Idaho with its mineral wealth and grazing lands. Crossing the Rocky Mountain range at a point where it is so broken down into scattered elevations as hardly to deserve the name, the road will enter the fertile valley of the Columbia River, and thence through a pass in the Cascade range to tide-water on Puget Sound. Unlike the Union Pacific, the proposed Northern route passes through few waste lands, arid plains, sage deserts and alkaline valleys. With our superficial geographical education we have been in the habit of regarding our extreme North west territories as hardly less frozen and uninviting than Labrador. On the contrary, one leading advantage the Northern Pacific Road will have over the present completed line will consist in the fact that, although located six degrees further north, it will be easily kept free of snow the year round. This climate, difference in favor of the Northern line is due mainly to the difference in altitude. For instance, along the whole length of the Northern Pacific line not more than 250 miles will have an elevation exceeding 3,000 feet above the sea, while 1,100 miles of the present Pacific Road are more than 4,000 feet above the same sea level, and over 500 miles of the Union Pacific have an altitude of 7,500 feet. While the highest point on the present line is 8,262 feet above tide-water, the highest point on the North Pacific will be less than 4,000 feet above tide-water. Jay Cooke & Co. will

be the fiscal agents of the enterprise. The contract is already closed, with this exception, that the former insist upon making a personal inspection of the proposed route before entering actively upon the work. Accordingly two parties, starting respectively from Puget Sound and Lake Superior, begin this week the survey, the Fiscal Agents of the Company being represented in each expedition. This preliminary examination of the line will probably be completed by the first of October next, at which time the two parties will come together, compare notes and submit their report. The road is expected to be completed in five years, at a probable cost of \$120,000,000. In connection with the work of construction a Bureau of Immigration will be organized, having agents in all the countries of Northern Europe, to encourage and facilitate the migration of laborers who will at first obtain employment on the railroad, and gradually become proprietors of the farm lands along its line. From the Pacific at San Francisco to the lakes at Chicago it is 2,423 miles; from the Pacific at Seattle to the lakes at Duluth it is only 1,774 miles. From Seattle to Chicago by way of Duluth (all rail) it is 2,140 miles. From New York to San Francisco via Chicago and Omaha it is 3,323 miles; from New York to Puget Sound via Chicago and the Northern Pacific route it is 3,040 miles. Finally from New York to Shanghai via Chicago, San Francisco and the Midway Islands, it is 10,423 miles; from New York to Shanghai via Chicago, the Northern Pacific, and Puget Sound, it is 8,756 miles. [*Chicago Advance, July 15.*]

Railway Project at the East.

[From the Toronto Globe, July 14, 1869.]

To the Editor of the Montreal Gazette:

SIR:—In April last you were kind enough to insert a couple of letters of mine on the subject of an Ottawa Valley Railway, which came up on the occasion of an official visit of the late Mayor of Ottawa to Montreal. I therein drew attention to the position of the Canada Central Railway, the only land grant railway in the Dominion. The charter of this company, which has lain dormant for thirteen years, has recently passed into influential English hands, those of the owners of the Brockville and Ottawa Railway, who have performed the prescribed conditions for the purpose of preserving the valuable land grant. The Brockville and Ottawa road is specially interested, because from the city of Ottawa westward, the Canada Central would be a feeder to it; and it is with the section between their railway and Ottawa, about 28 miles, that the work of construction is now going on. The completion of every 25 mile section entitles the company to a proportionate share of the land grant, which is not merely liberal, but munificent, being about 13,000 acres per mile, or about three times the quantity accorded to similarly situated American roads. The direct interest of the Brockville and Ottawa is in the section of the Canada Central west of Ottawa, but the charter and land grant are for a line from Montreal to Lake Huron. It will therefore cross the line of the Toronto and Nipissing road, a company which has just been organized without any land grant at all. The intelligent municipalities about Toronto have granted bonuses to that road, and spirited commercial men in that city have made ten

thousand dollars subscriptions to the stock, which has acquired a positive value from the large *douceurs* made by the municipalities.

The influence of the Toronto narrow gauge roads has been proved to be paramount in the Legislature of Ontario, and that Legislature controls the unsold lands as far as the newly acquired North-west Territory. The Nipissing road is sure to receive a land grant from Ontario, and it ought to receive it—if Legislatures help those who first help themselves. I think that nothing more creditable has occurred in the history of Canada than the resolute manner in which the people of Western Ontario, unaided by Government or foreign capital, and in the face of formidable opposition from the broad gauge Companies, have set about providing for their railway wants. Nor can any higher tribute be paid to the value (I may say paramount necessity) of railways to every civilized community. The time will come when every township in Canada will have railway accommodation, and it will not be long before the conviction becomes universal, that without such accommodation, no township is fit to live in.

The Nipissing Road, with a land grant, may cross the track of the Canada Central before the latter (even if now vigorously entered on) will reach the point of junction, and thus stand foremost as the candidate for extension to the North-west; and if, as seems to be the universal conviction we must have a Canadian Pacific Railway or "back down" from the Nor' West, I think it behoves the people of Montreal, and of the Ottawa Valley, as well as the whole Province of Quebec to consider whether or not they should take any interest in that extension, or leave it in the hands of Toronto and Western Ontario.

It is understood that the Government of Quebec has organized an exploring expedition from Lake St. John, on the Saguenay, to the head waters of the Ottawa, and thence into the watershed of the Hudson's Bay, with a view of penetrating the North-west by a short cut upon that route. Thus, Montreal is assailed with a fire in front and rear; but as it will tax the energies of all concerned to cross the rocky frigid belt between the Ottawa and Winnipeg Valleys, in order to reach the fertile belt beyond, I doubt not that a junction of the lines, near and north of Nipissing (should more than one reach there) will be inevitable. If Montreal is content with the Grand Trunk and a break of gauge at Toronto, nothing is more certain than that the Pacific and Nor' West stream will branch off at all the ferries above Prescott, and thus be diverted or exhausted before it reaches the tide waters on the St. Lawrence.

If timely and energetic action be taken to preserve the land grant of the Canada Central, a direct Pacific Railway through the Ottawa Valley will be shortly under way; and it is to bring this before the consideration of the proprietors and business men of Montreal that I again trouble you. The charter expires next year, unless renewed or kept alive by prompt and sufficient action. If a *bona fide* effort be made, which can not be done unless participated in by Montreal, there is no doubt that an extension of time will be granted, and the provisions of the charter be maintained.

Upwards of one hundred and fifty millions of acres of land have been granted to railway companies in the United States, or an area of two hundred and thirty thousand square miles—three times the quantity of all the

occupied land in the present Dominion of Canada, and more than double the whole quantity surveyed. The Pacific railways get ninety-nine millions of acres and fifty-five millions of more valuable lands in the States have been granted in aid of 14,400 miles of railway, an average of less than 4,000 acres per mile. As these lands sell for an average of ten dollars per acre, this comparatively small quantity per mile has secured the construction of many thousand miles of railway in some thirteen States of the Union. The land subsidy to the Pacific Railways exceeds twenty thousand acres per mile, but is really less valuable than the smaller quantity in the States.

The Canada Central subsidy is about three times greater than that of the railways in the Western States, so that if on completion of the road three acres in the Ottawa Valley will bring as much as one acre upon a Western prairie, the land alone should refund the cost of the road.

If the bonuses of the Ontario municipalities have induced shrewd commercial men to take stock in the Toronto narrow gauge roads, should not the land grant of the Canada Central (which is certainly of more value than these bonuses) induce the same class in Montreal and the Ottawa Valley to do likewise with regard to their railway.

In my former letters I referred to the commercial prospects of this road, and its importance to Montreal, and showed that the enhanced value of the timber and mineral lands, the lumber traffic, the connection with grain elevators on Lake Huron, and the future connection with American lines, as well as with the Nor' West, were reasons why we should make an effort to retain the now important provisions of our land grant charter.

St. Paul Minnesota, is in about the same latitude as Montreal, and the shortest railway route to it, by over an hundred miles, will be through the Ottawa Valley and Sault Ste. Marie.

I also showed that it was in the interest of the Grand Trunk and all its Northern branches as well as of the whole of Ontario, that the Ottawa Valley should be opened up and settled, and that our military strength would be greatly increased thereby. I believe it possible to unite the Montreal and Toronto interests in a joint extension from Nipissing towards Red River, in which the sympathies and material aid of the Ontario and Dominion Governments and possibly of the Empire may be enlisted.

With your permission, I will, in another letter, consider the political importance of a Canadian Pacific Railway, the first section of which we have in the Canada Central an opportunity to start under the most favorable auspices. If the present land grant be allowed to lapse through inaction, neither Montreal nor the Ottawa Valley can hope in any future day to have sufficient influence in the Ontario Legislature to renew the same, nor would a future renewal be of much value as the lands will ere long be taken up by other parties.

THOS. C. KEEFER.

OTTAWA, 1869.

BURLINGTON, CEDAR RAPIDS & MINNESOTA.—The fiscal agents report an increase demand for the first mortgage gold convertible bonds. The construction of the road is progressing rapidly, and rails are being laid at the rate of one and a half miles per day. The company has just completed the purchase of 5,000 tons of rails, which will be put down immediately.

The New North-west.

"The North-west" is constantly shifting with the changes of population. Our fathers and persons now living knew it as the country beyond the Alleghenies, in what is now called Ohio. It afterward shifted to Indiana, Michigan, Iowa, Illinois and Wisconsin, constituting the cluster of States around Lake Michigan. A few years ago it changed to Minnesota, Dacotah, Nebraska and Washington. But the "North-west" of to-day is to be found further off. It comprises the vast and fertile belt of country on the head waters of the Missouri and the Mississippi. The vast country that stretches from the upper part of Lake Superior and Hudson's Bay, and thence to the Rocky Mountains, is the North-west of the present day, the point to which pioneer enterprise is directed, and the object of many ambitious plans of colonization and future empire.

Very little is known of this region, further than that it is fertile, and that the climate is temperate. It includes the materials for many more States, each of them larger than the largest that is now reckoned in the galaxy of States. Part of it belongs to the United States, but the bulk of it is included in the British territories. But the larger portion of it will probably devolve upon the first actual settlers, and from the way the country is now filling up with Americans there is very little doubt that it will ultimately revert to the United States. It is a magnificent prize for ambition, and figures largely in the British dreams of a rival empire to our own. It is to be hoped, however, that the rivalry in this new and magnificent region may be limited to competitive industry, and that it may never result in a conflict of arms that would seriously retard the march of civilization upon our continent.

It is, however, only with the industrial features of the new North-west that we have to deal, and upon this point the developments are interesting and important. Both British and American capitalists are devising plans for the construction of two new lines of railroad to the Pacific coast, parallel with the new Central Pacific route just completed. The project for a British American Railroad has received new impulse from the proposed acquisition of the Hudson's Bay territory by the New Dominion. The proposed route from Montreal to the Upper Frazer River, in British Columbia, is as follows:

	Miles.
Montreal to Ottawa.....	115
Ottawa to Fort Geary.....	1,200
Fort Geary to Yellow Head Pass.....	1,010
Yellow Head Pass to Columbia.....	52
Route by the Upper Frazer.....	445
Total.....	2,822

This line is 483 miles shorter than the route from New York to San Francisco. The route possesses fewer engineering difficulties than were encountered in the Central Pacific, and is through a well watered and comparatively level country. The average cost is estimated at \$50,000 a mile, in gold. It is proposed that the money shall be raised by private subscription, the interest to be guaranteed by the Imperial Government. It is expected that a large proportion of the overland trade with China and Japan will flow across this new route, and it is thought that this consideration may attract the support of the Government and capitalists of England. The completion of this work would no doubt contribute largely

to the consolidation of the New Dominion Government, but it is extremely doubtful whether it is practicable to colonial enterprise.

The other route, projected by American capitalists, will probably start from a point on upper Lake Superior; thence across the continent to the Pacific, on the United States side of the frontier line. The route is through a rich agricultural and mineral region. A party of American capitalists and railroad men are now surveying the country on the Upper Missouri and Lake Superior, with a view to ulterior results, and the location of a north-eastern terminus. It is believed that Duluth, a new town on the upper extremity of Lake Superior, will be selected as the terminus. Another expedition is exploring the route from Puget's Sound to the Upper Missouri. Great interest is felt in the result, and when the plan is fully before the public it will no doubt prove eminently feasible and attractive. Men accustomed to great enterprises and with the command of vast capital, are concerned in what may be regarded as the newest and most important railroad enterprise of our day. Every thing may be expected from their sagacity and skill.

It may be questioned, however, whether this present generation can bear two rival routes to the Pacific north of the present Central road. No doubt the commerce would ultimately pay the interest on the cost of the construction of both lines. But the capital requisite will cause a serious drain upon the resources of both countries. It would seem as if the better course would be for the Americans and Canadians to sink minor differences and blend both their interests and means in the construction of a single line. We trust that this course may be adopted. But failing this, the American line is probably bound to go through. Its influence in developing the resources of the country must be immense. The new North-west is probably the richest grain producing region in the world. Minnesota is now the largest wheat producing State in the Union; and the adjacent territory is still richer. Already the stream of immigration is rapidly pouring into the new country. Duluth promises to become the Chicago of the new North-west, and the time may be by no means distant when the vast solitude, now only unbroken save by Indians and wild animals, may resound to the busy hum of civilization, and new States, cities and towns spring up, making a new empire within the already marvellous bounds of our great Republic.—*Economist*.

A NEW MONSTER LOCOMOTIVE.—One of the most powerful engines ever built by any railroad company has just been constructed at West Albany, and put in active operation on the Central Railroad. It is denominated 13, and is intended for heavy drafts. It was built on a new model by C. T. Ham, superintendent of motive power. The advantage of the new engine, we would state, is that heretofore twenty-five loaded cars of stock was the usual train from Buffalo to this city, with fresh engines at Rochester, Syracuse and Utica. On Friday No. 13 made the trip with fifty loaded cars of stock from Buffalo to Albany without change, making one hour and forty minutes on the usual time. The dimensions of No. 13 are as follows: 18 inch cylinder, 22 inch stroke, drives, 4 feet 10 inches in diameter; boilers, 46 inches; flue 11 feet 2 inches; grate, 65 inches; with pony, truck and drivers connected. The model is entirely new, and Mr. Ham deserves credit for its successful construction.—*Daily Star, New York*.

Michigan Central Railway.

Facts and Figures from the Annual Report for 1868-9.

In our issue of the 1st inst., we gave from advance sheets, the text of President Joy's Report, presented at the annual meeting of the stockholders, at Detroit. From the published Report of the Directors, containing, along with the document above named, the Annual Report of Sup't Sargent and those of other officers of the Company, we gather the following facts and figures:

THE BUSINESS OF THE YEAR.			
	1868.	1869	Inc. or Dec.
Earnings.			
Passengers ..	\$1,721,506 97	\$1,795,946 11	†\$74,999 14
Freight.....	2,480,974 16	2,755,200 48	†274,226 32
Miscellan's..	268,393 51	165,286 30	103,112 21
Totals.....	\$4,470,879 64	\$4,716,292 89	†\$245,413 25
EXPENSES.			
Operating....	\$2,610,316 70	\$2,782,467 79	†\$172,121 09
Taxes.	104,19- 94	104 475 60	276 66
Totals	\$2,714,515 64	\$2,886,943 39	†\$172,397 75
Ratio of expenses to earnings, including taxes....	'60 71 100	'61 21-100	†'00 50-100
Exclusive of taxes....	'58 33-100	'59	†'00 62-100
Passenger Earnings per mile.	\$5,232 54	\$6,323 25	†\$1,090 72
Freight per mile.....	7,540 95	9,701 41	†2,160 46
Miscellaneous per mile.	815 80	581 90	—233 84
Total....	\$13,559 29	\$16,606 66	†\$3,017 37

We compile the following statistics of percentage of earnings:

	PERCENTAGE	
	Passenger.	Freight.
Of local increase....	4 97-100	12 80 100
Of through increase....	1 80-100	9 44-100
Of emigrant increase....	35 56-100	
Of local to entire earnings.....	47 23-100	48 72-100
Total tonnage increase.....		25 72-100

The percentage of local passenger and freight earnings was 47 43-100.

We quote from Superintendent Sargent's Report:

Passenger Traffic.—The arrangement with the roads and lines east of Suspension Bridge and Buffalo taking effect on the first of January last, wherein the earnings on all through traffic, both passengers and freight, are prorated, has reduced the receipts of this company per passenger, on through business, but it is believed to be compensated for in the removal of troublesome restrictions and arbitrary rates at certain seasons heretofore imposed on our East bound through freight, as also in securing greater co-operation in the general interests and working of the line for the long traffic.

In addition to the four through daily passenger trains in each direction, a daily train is continued between Detroit and Dexter, which will soon be necessarily extended to Jackson.

Day and night trains are also run between Chicago and Michigan City, connecting thence through Lafayette, Indianapolis, Cincinnati, Louisville and New Albany, and it has this season been found necessary to run a daily train between Chicago and Kalamazoo, in order to relieve the express passenger trains and better accommodate the growing way travel; this train, as far as practicable, being run between Chicago and Michigan City in connection with the Louisville express.

The passenger equipment of the road has been materially improved during the year—constant regard being given to uniformity of cars and trains, and consequent strength and resisting power, thereby securing the greater immunity from accident.

Of the 846,452 passengers carried during the year, no one of them has been injured. And of the 10,120,022 persons carried altogether since the commencement of the road, no passenger has ever been injured inside the first-class cars of this company.

Freight Traffic.—The earnings of this department, as anticipated in our last report, show material increase, chiefly owing to the enlarged facilities afforded to the East bound traffic.

Notwithstanding the reduced rates received on the through eastward shipments for three months succeeding 15th February—being much lower than at any previous period covering the same season—the larger tonnage carried has materially increased the gross earnings in this direction.

The article of bulk grain, which until the completion of uniform gauge between Detroit and Suspension Bridge, has formed no part of our through traffic, has now become its principal item.

From entire through shipments of 1,060,160 bushels, during the year ending May 31st, 1868, this business has increased to 3,706,240 bushels during the year now expired; and the tonnage would have been much greater had we been able to provide a sufficient number of cars and proper handling facilities.

The quick transit of grain by rail, as compared with water, the uniform good condition of delivery, and the convenience of quantity as suited to the means of dealers, is becoming more apparent, and must soon, to a large extent, change the grain carrying trade. Adding to these advantages, increased track facilities over the several Trunk lines, and a moderate and less expensive rate of speed, there can hardly be a question as to the ultimate movement of the bulk of this trade.

The working of the *Through or Blue Line* with cars of uniform style of build, continues to give excellent results; particularly in lessening the chances of delay as compared with the cars of mixed construction and consequent difficulty of repair while remote from their own roads.

All the Trunk roads in interest are at the present time adding to their quotas of the uniform stock. The completion of the Kalamazoo, Allegan and Grand Rapids Railroad, and the opening of a portion of the Grand River Valley Road, with which close business relations are established, as also with the Jackson, Lansing and Saginaw Road at Jackson, is increasing the local business of the road largely to and from their points of intersection.

OPERATING EXPENSES.

The total expenditure on account of operating was \$2,886,943 39—as follows:

Road repairs.....	\$557,292 25
Building repairs ..	200,052 96
Locomotive repairs.....	271,220 65
Car repairs.....	315,238 44
Locomotive service.....	140,445 12
Train service.....	148,241 25
Station service	601,703 89
Fuel.....	387,865 32
Oil and waste.....	53,017 38
Stationery	29,698 89
Telegraph.....	27,682 98
State Tax.....	104,475 60
Miscellaneous.....	50,008 74

The relative cost of operating, as compared with gross receipts was six per cent above the previous year, while the increased tonnage amounted to 25 72-100 per cent. over for the same period.

PERMANENT WAY.

The outlay for road repairs—\$557,292 25—was 21 per cent. less than the year previous. The following are among the principal items: Personal services, \$270,133 81; ties, \$28,752-80; spikes, \$12,042 18; re-rolled "T" rails, \$129,479 14; repairs of do, \$21,294 96; joint splice, \$14,691 26; bridge repairs, \$19,941 52; fence do., \$23,351 99. Of material used there were: re-rolled rails, 3,419 tons; repaired rails, 3,315 tons; rail spikes, 2,515 kegs; ties, 76,415; new joints, 16,455. Of new fence built, there was—of board, 37 miles; of rail, 26 miles. Of additional side track there was laid 17,843 feet. The total of entirely renewed track was 102 22 miles (35½ per cent of the road)—re-rolled rails, 35 68; repaired do, 34 60; replaced do, 30 94.

The entire side track is now 57½ miles—21 4 per cent of the entire line. There has been newly ballasted with gravel, 18 miles. Among important items of

BUILDING,

there has been a brick freight-house at Jackson 37x457 feet, with slate roof, and offices, costing \$25,377—required to accommodate, along with the company's own business, the joint business of the Jackson, Lansing & Saginaw, and Grand River Valley Roads connecting there; a grain and freight house at Parma, of 40,000 bushels capacity; a 10,000 bushel grain house at Buchanan; and new turn tables, with permanent foundations, at Chicago, Niles and Kalamazoo.

LOCOMOTIVE EQUIPMENT.

The total number of engines is 100—22 burning coal, 78 burning wood. The total of miles run was 2,394,934 (an increase of 339,883, or 15 per cent.), as follows: passenger trains, 850,803; freight, 1,076,384; working, 141,534; switching, 326,213.

Of fuel there were used—64,449½ cords of wood at \$4 16 per cord; of coal, 13,797½ tons, at \$4 22 per ton.

The average of miles run was—to cord of wood, 29 34; to ton of coal, 37 16; to gallon of oil (19,734½ galls.), 121 39. The average number of cars per train was 22 89.

The total cost per mile run was, 31 52 cents, as follows:

For repairs.....	11 32 cents.
For engineers, firemen and wip- ing.....	5 86 "
For fuel.....	13 67 "
For oil.....	64 "
For rags and waste.....	335 "

CAR EQUIPMENT.

The entire car equipment numbers 1,918—89 passenger, 20 baggage, 1,513 freight, and 296 hand and rubble. Of the passenger cars, 57 are 12-wheel day, and 10 Pullman Sleeping—3 12-wheel, and 7 16 wheel. Of the freight 394 are stock, 697 merchandise, 155 Blue Line, and 234 platform. There were expended in building and repairs—passenger, 111,283 81; baggage, \$22,526 68; freight, 177,688 78. The cost of a day coach (one built) is \$7,500; of a second class car (4 built), \$3,466; of a stock car, (38 built,) \$930; of a merchandise car, (12 built,) \$806; of a coal platform car, (15 built,) \$636. Superintendent Sargent says:

"In the passenger branch, all coaches are supplied with the Ruttan plan of ventilation,

which is successful in the almost entire exclusion of dust and cinders and the production of an abundant supply of pure air.

"All the twelve-wheeled, first-class coaches, (now numbering 57), are of uniform size and style of build; and in renewing, care is taken to preserve uniformity in the improvements, consisting in raised roofs, and the application of the Miller platform, coupling and buffer, also of the Myer's safety train brake.

"Baggage and second-class cars are added of similar outline and attachments, combining entire uniformity of train, with great strength and resisting power."—*Railway Review.*

The Future of Railway Property.

It is hardly safe at present to estimate the general status of railway property ten years hence. At the inception of our railway enterprise, the shareholders were satisfied with small returns; the business was small, the rates of fare high, and the dividends quite moderate. Very soon the dividends sunk to nothing in consequence of the heavy repair and reconstruction expenses. The companies struggled on for some years, and finally by the increased business of the country, the different roads were worked with profit to the owners at even smaller rates of fare, the increase of business being of greater ratio than the decrease of fare, experience proving that every decrease in the rates, added very largely to the business and made it an easy matter to pay large dividends upon the moderate amount of capital employed. The charters contained a clause that the State should have the right to take the different roads, at their real cost to the companies by paying them the amount with ten per cent. per annum, deducting from the ten per cent. to be paid whatever amount had been divided from the profits, the Legislature intending by this measure to prevent the companies from overcharging the public. The measure was a proper one, because, unless some such restriction was made, the monopolizing features of the charter placed the public at the mercy of the railway companies; and it very properly determined that ten per cent. was the maximum that the companies ought to receive under any and all circumstances, especially when the public had given the companies an exclusive right to all the business between the terminal points of the roads for a long period of time, say thirty years. It was soon found that the profits were greater than were allowed to be divided, and so a portion of these profits were expended in doubling the tracks and buying new rolling stock; and as this did not prevent the profits from continuing to increase, the fares were reduced, and this caused a still greater increase of business, the increased profits of which were used in increasing rolling stock, shops, depots and tools. Some of the companies soon found that it was quite convenient to have a large surplus of profits on hand, and in time, when this became so large as to attract attention, it was divided among the shareholders in the shape of new shares, and thus the capital stock was increased without the shareholders paying a dollar for it. This was a very pleasant way to get rid of the troublesome increase of profits, but the public, which had granted the companies their charters, have had to pay dividends on this increase of capital, which had already been wrongfully taken from its pockets by overcharges. This is not so pleasant to contemplate, and in consequence, a great many men are asking the question why they have to pay three dollars

for passage between two given points, when two dollars would not only remunerate the railway company, but leave it a very handsome profit? And not only are these questions asked, but many influential persons are beginning to demand that the State, according to the terms of the different charters, shall take possession of the roads and operate them at cost for the public benefit. This demand is growing stronger from year to year, and eventually the railway companies will have to operate their roads upon this principal, or resign them to the authorities. In the latter case, the stock which has been issued from the "reserved profits" will be wiped out, and the aggregate sums represented by them will be charged to the ten per cent. dividends, which the State is required to pay upon the real cost of the roads. Certainly this would not be more or less than fair to all parties, the shareholders and the public. Why should the public be required to pay eight or ten per cent. annual dividends upon the \$32,000,000 of capital wrongfully added to the stock of the New York Central Railway? Did the Legislature or the people ever intend that the railway managers should thus dishonestly increase its capital stock, and thus make it an impossibility even to reduce the rates of passage per mile, or merchandise per hundred or ton? The great fact must not be lost sight of that the railways are the highways of the nation, and that cheap transit of passengers, and cheap transport of merchandise is the great demand of the age, as well as the most potent agency for social and industrial progress. True statesmanship would wipe out this great wrong, not only as an act of justice to the people, but as a measure calculated to increase the productive energies of the country, by a reduction of the cost of every article used for food or in manufactures. It has been calculated that some one hundred and seventy-eight millions of dollars have been wrongfully added to the railway capital of the country, within the last few years, by such bold financiering as the New York Central delights in. The annual interest of this sum, at eight per cent., is \$14,040,000, and this great sum is a perpetual and unnecessary tax laid upon the people. The success of the policy instituted by the managers of the New York Central and a few other companies, threatens to demoralize our whole railway system; but when the reaction comes, and this wholesale fraud is repudiated by the Legislatures and the people, as it most assuredly will be, there will come a period of unsettled values for all railway property tainted with this fraudulent element. Should the States assume the charge of the railways, on the charter terms allowing them so to do, this false capital will not be allowed as a part of the cost of the road, and those holding this fraudulent stock will find that it is not worth the paper it is printed upon.—*American Railway Times.*

Improvements in Railroads.

A few months ago a series of highly interesting and satisfactory experiments were made in France, which thoroughly demonstrated the practicability of a new kind of railroad invented by M. Larmanjat, an engineer of some celebrity. The track had been laid from some village of Raincy to Montfermeil, a distance of about four miles along the public highway. The excursion train was in waiting for the invited guests. A liliputian locomotive, named the "Swallow" stood at its head, and was coupled to a series of elegant

little cars, each of which held sixteen persons. The novel feature of the invention consists of a single rail, like a long ribbon, extending along one side of the road. One wheel placed at the forward part, alone bears on this rail, while the two other wheels rest on the ground. The cars are furnished with two wheels, placed underneath in their long axis, which rest on the rail and support their weight, while two other wheels, destined to preserve their equilibrium, are placed outside. A few minutes after starting, and while the train was running at a speed of ten miles an hour, it reached a grade of 410 feet to a mile, which, to the surprise of all present, it ascended without an apparent slackening of the speed. The first result was conclusive in favor of the system proposed, as it showed, beyond a doubt, the possibility of overcoming the difficulties inherent to the ascent of extraordinary steep grades. A portion of the road presents a series of very short curves of a radius of only sixty-five feet; these the train followed with marvelous smoothness and regularity. On the return trip the brakes were so perfectly adjusted that the velocity on the rapid descents was kept constant at all times. The train ran to Montfermeil in twenty minutes and returned in seventeen. The general result of this trial trip was considered satisfactory in every respect, and M. Larmanjat received the approbation of all present. He had achieved a success, and proved the possibility of establishing cheap and light railroad lines and trains. For local purposes the system seems to be well adapted. The locomotive used on the occasion weighed only three tons. The estimated cost in France of building such a line, including labor and material, amounts to 289,000 francs for twenty kilometers, or about \$57,800 in gold for a length of fifteen miles. — *Cincinnati Bulletin*.

John A. Roebling, the Bridge Builder.

John A. Roebling regarded as the most talented and scientific engineer of the age, in that peculiar branch of the profession to which he had applied himself, died at 6 o'clock yesterday morning at the residence of his son, No. 137 Hicks st., Brooklyn. His death was the indirect result of an accident which occurred at the Fulton Ferry-ship, on the 28th of June, when his foot was fearfully crushed between the cross-beam of the dock or rack and a float which was entering the slip. It was found necessary to amputate the toes, and since the operation Mr. Roebling has been in a precarious condition. About eight days ago, tetanus or lock jaw set in, accompanied as usual, by spasms, and ultimately caused death.

John A. Roebling was born on the 12th of June, 1806, in the City of Muhlhausen, in Thuringia, Prussia. His academical studies were pursued in his native city, and on their completion he was sent to the Royal Polytechnic School at Berlin, where he received the degree of Civil Engineer, after an unusually brilliant scholastic career. By the regulations of the school, the three years next succeeding the graduation of a student are to be devoted to the service of the Government; hence, no sooner had Mr. Roebling obtained his diploma than he embarked at once upon the practice of his profession. During the greater portion of these three years he was engaged in superintending Government work in Westphalia. At the age of 25 he came to

this country, and settled in the neighborhood of Pittsburgh, Penn., where for several years he devoted himself to agricultural pursuits. The country, at that time, had just entered upon the grand progressive career which has since brought forth such mighty results. In nearly all of the States canal and slack-water improvements were projected or in progress, so that when Mr. Roebling, wearied with the monotony of a farmer's life, sought to enter again upon the profession for which he had prepared himself, he experienced no difficulty in obtaining an engagement. For some years he was employed in canal work, but in the meanwhile the age had advanced another step, and the old time canal was forced to give way to the new idea, the railroad. The State of Pennsylvania at this time projected several great railway enterprises, and in the service of that State the subject of this sketch spent three years, surveying and locating three lines, across the Alleghany Mountains, from Harrisburg to Pittsburgh. Of these, the line which was ultimately constructed is now known as the Pennsylvania Railway, and was built by the Company having that title and not by the State. Having completed his surveys Mr. Roebling commenced the manufacture of wire rope, producing the first of that fabric that was ever made in the country. The introduction of these ropes on the inclined planes of the old Portage Railroad, over which the canal-boats of the Pennsylvania Canal were transported, was attended with much difficulty and met with that degree of opposition which always has risen, and in all probability, always will rise to retard the progress of a new invention or a novel idea. From his experience in the manufacture of wire rope Mr. Roebling formed his opinion relative to its adaptability for bridging, and in 1844 he commenced a work whose completion was destined to prove that his opinion was a tenable one, in spite of the scoffs and jeers of the incredulous, and the attacks of other civil engineers who deemed the project the outgrowth of a diseased mind. This work was a suspension aqueduct over the Alleghany River at Pittsburgh, to replace the old aqueduct, which had become useless from age. It was completed in May, 1845, and comprised seven spans, each of 162 feet. The cables were seven inches in diameter, and the success of the work was such that, during the succeeding year, Mr. Roebling was engaged to construct the Monongahela Suspension Bridge, connecting Pittsburg with Sligo, now a great manufacturing suburb. The spans of this bridge were eight in number, each 188 feet in length, and each supported by two $4\frac{1}{2}$ inch cables. In this bridge the pendulum process was employed, to counterbalance adjoining spans under the pressure of unequal loads. In 1848 Mr. Roebling commenced a series of suspension aqueducts on the line of the Delaware and Hudson Canal, connecting the anthracite coal regions of Pennsylvania with the tide water of the Hudson River. These were the Lackawaxen Aqueduct, two spans, 115 feet each, and two 7-inch cables; the Delaware Aqueduct, four spans, 134 feet each, and two 8-inch cables; the High Falls Aqueduct, one span, 145 feet, and two $8\frac{1}{2}$ -inch cables; and the Neversink Aqueduct, one span, 170 feet, and two $9\frac{1}{2}$ -inch cables. They were completed within two years, and are all permanent works, needing merely an occasional renewal of the wooden ducts, which decay from the action of the water. It was soon after the completion of these works that Mr. Roebling removed his works and residence to Trenton, N. J.

In 1851 Mr. Roebling undertook to build a suspension bridge across the Niagara, to connect the Central Railway of New York and the Great Western Railway of Canada, and in four years succeeded in constructing the first suspension bridge capable of bearing the immense weight of railroad locomotives and trains. The span of this bridge is 825 feet clear, and its supports are four 10-inch cables. Mr. Roebling, while the Niagara was building, was also engaged on another, of even greater magnitude. This was to have crossed the Kentucky River, on the line of the Cincinnati and Chattanooga Railroad, with a space of 1,224 feet, but before the structure had been completed the Company suspended payment, and the work was discontinued. In the Fall of 1856, he commenced the great Cincinnati bridge, whose span is 1,030 feet, and, after having been forced to suspend operations for several years, on account of financial drawbacks, brought it to a successful completion in 1867. In the interim, from 1858 to 1860 inclusive, he was engaged on another suspension bridge at Pittsburgh. The last and greatest work of Mr. Roebling was that on which he was engaged up to the time of his death—the East River bridge. As he had prepared all his plans, and made most of the arrangements for the construction of the bridge, his death is not so great a misfortune to the cities of New York and Brooklyn as it would have been had it occurred at an earlier day. As is evidenced by his career, Mr. Roebling was a man of indomitable will and persistent energy. It is related of him that while he lay suffering intense agony from the fearful disease that at length took his life, he wrote, in one afternoon, ten pages of manuscript, giving directions relative to the bridge and other matters. At the time of the accident, and during the surgical operation, not one groan escaped him, although his agony must have been fearful. As a man he was loved and respected by all with whom he came in contact.

“By his works shall ye know him,” says the Holy Book. Judged by that standard, John A. Roebling has left behind him a record inscribed on many a noble work, which shall stand for years as his most fitting monument. The fame of the warrior, the statesman the scholar, is ephemeral, but to this man whose loss is so universally deplored, is vouchsafed fame which shall only die with his works. He needs no lofty monument, no sounding eulogy, no scholarly epitaph. He lives in his works.—*N. Y. Tribune*.

A TRACTION ENGINE AT NAMAQUALAND.—The dullness of this place and Springbok has been greatly and agreeably disturbed by the running of the Cape Copper Mining Company's steam traction engine “Pioneer” along the roads, and great was the astonishment of some of the country people to see an immense (as they called it) fire-wagon traveling without either horses or oxen. It is devoutly to be wished that many more of the same kind of engines may follow, as it is deplorable to see many thousands of tons of copper ore lying upon the company's grounds without the means (unless by the old process) of being transported to a port of shipment. The engine was made by Aveling & Porter, and combines the latest improvements suggested by their great experience in this class of machinery. The trial trip from this place to Springbok was made on the 19th of March, the engine leaving Ookiep early in the afternoon, ascending with ease the steep gradient

at the toll-gate, passing through the village to the reduction works, and returning to Ookiep the next day. On the following Tuesday, under the management of Mr. W. Morshead, the company's resident engineer, a more severe trial was made, the engineer, in the presence of the company's superintendent, ascending a steep hill on the Nababeep road, the path being in places very rocky and cut up by water-courses. In returning to Ookiep, an old wagon-road was taken, in which a deep "sluit" was met with. This, also, was easily crossed. The engine seemed, in fact, able to make its way almost any where that an ox-wagon could be driven, and it will, doubtless, render valuable assistance in the transport of ores and materials.—*The Cape Argus*, April 3, 1869.

GEORGIA ROADS PROJECTED.—The advances thus far made toward your great Southern Railway are already producing effects with us, and stimulating new enterprises in this State. A railroad is now being surveyed from a point on the Georgia Railroad not far from the ancient city of Augusta to Clayton in the North-east corner of the State, there to unite with the Charleston and Knoxville road, which is partly built, and is expected to be stimulated into completion by the Knoxville branch of your enterprise. In the next place there is a road to be built from some point on the Central road, some one hundred and twenty miles from Savannah, to this city, thereby shortening the distance from this city to Savannah some forty miles. These two enterprises are expressions of the interests of Augusta and Charleston on the one hand, and Atlanta and Savannah on the other, and are being moved as a consequence of your enterprise in prospect, and will be built *pari passu* with it. The placing of the Southern terminus of your road at Chattanooga is now regarded by all parties in Georgia as wise and judicious. While it gives you a central route to the Gulf, it also secures direct connections with almost every neighborhood in the Southern Atlantic States. For your enterprise will hardly be completed before other railroad projects with reference to it will be started, and among them a road from the vicinity of Dalton to some point on your road near Emory's Gap, in Tennessee, thereby cutting off thirty or forty miles more of distance between your city and Savannah, and rendering Savannah by far your most desirable and important Atlantic seaport.

There is yet some talk and fear about your constitutional obstacle. "Where there is a will there is always a way," and, as your people have shown their will by a vote of ten to one, we take it for granted that a way will be had—that a strongly pronounced will of a great people is not to be defeated or obstructed by stupid law or technical phrases.—*Cor. Cin. Com.*

T. F. Randolph,

MANUFACTURER OF

MATHEMATICAL INSTRUMENTS,

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Railroad Printers

167 Walnut Street,

CINCINNATI, O.

HAVING MADE RAILROAD PRINTING A

SPECIALTY,

We would respectfully call the attention of Superintendents, General Ticket and Freight Agents to the class of work we are now producing.

Bulletin Boards,

STRETCHERS,

Illuminated and Plain Show Cards

CONSECUTIVELY NUMBERED

COUPON AND LOCAL TICKETS,

Bills Lading,

Way Bills,

Blank Books,

AND ALL WORK INCIDENT TO RAILROAD OFFICES,

Got out in first-class style, and at as low rates as any establishment in the country.

SUSPENSION

COUPON TICKET CASE.

BACON'S PATENT

This Ticket Case, having come into extensive use during the past two years, we would call the attention of those interested to its advantages:

It consists of horizontal bands attached to upright standards, so arranged, that the Tickets, which are suspended in packages of 20 to 30 each, (without being eyeletted or fastened together,) on hooks affixed to the bands, fall behind those suspended, in successive tiers below, leaving the stubs only exhibited to view; each tier projecting forward of the one next above, sufficiently to prevent any pressure of one upon another; and sufficient space being made below the lowest band, to admit the long-end package of Tickets.

It will be perceived that the stub of each Form of Tickets contained in the case, is thus brought before the eye of the Ticket Seller, and the several Forms being arranged in alphabetical or numerical order, the location of any particular Form can be instantly determined, and any number of Tickets, whether one or more, taken from the Case, without removing or handling others.

A drawer is made in the lower part of the Case, for a supply of Tickets from which to replenish the Case.

LIST OF PRICES.

For Tickets 2½ inches in width, and under. For Tickets over 2½ inches in width.

SIZE NO. OF NO. FORMS.	PRICES.	SIZE NO. OF NO. FORMS.	PRICES.
1 64	\$37	11 64	\$38
2 96	40	12 96	42
3 144	46	13 144	48
4 192	54	14 192	57
5 256	62	15 252	65
6 320	70	16 320	75
7 400	80	17 400	85
8 500	90	18 480	95
9 600	100	19 600	110
10 720	115	20 700	120

Cases will be furnished by the undersigned, at the above prices, made in the best manner, with Black Walnut cornices and mouldings, finished in good style.

Cases will be furnished in Black Walnut, elegantly finished, at 25 per cent. additional to the above prices.

HALF CASES, (without partings on the doors,) will be furnished, finished plain, at 25 per cent. less than the above prices, for a corresponding number of Forms.

When three or more Cases, of same size, are ordered at once, a suitable discount will be made.

Orders should always state the exact width of the Tickets for which Cases are desired.

Cases can be made adapted to Tickets of various sizes in one case, if desired; and the proportions of. Case may be made to suit any particular space, when required. Racks may also be made, on the same plan as the cases, and fixed to the doors of safes or vaults, or to the walls of offices.

Any parties desiring to make cases or racks for their own use, will be furnished with Patent Licenses by the undersigned, on reasonable terms, and also with working plans, if desired.

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All orders addressed to us will receive prompt attention.

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Keep always in stock a full assortment of

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K. RIDENOUR, Pres't, C.&I.J.R.R. College Cor., Ind.
J. M. LUNT, Sup't, C.&I.C.R.R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C.H.&D.R.R., Cincinnati,
J. H. WELLER, Ass't Sup't, D.&M.R.R., Dayton, O.
D. McLAREN, Gen'l Sup't, A.&G.W.R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C.&I.J.R.R., Hamilton
C. W. SMITH, Gen. Ft. Agt. C. & I. C. R. R., Indianapolis
Aug. 2, 1886.]

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It is an independent LIFT AND FORCE PUMP, with-
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IT CANNOT GET OUT OF ORDER, OR FREEZE UP.

WITH THE

STEAM SYPHON WATER-STATION

A locomotive can raise water, with its own steam, to fill
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thus dispensing with tanks, pumping ma-
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IT IS AN EFFICIENT

FIRE-ENGINE,

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Shops, Elevators, &c.,

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for Steam Vessels, in use

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BROAD GAUGE, DOUBLE TRACK ROUTE
FOR—

NEW YORK, BOSTON,

Providence, Albany,

PITTSBURG, HARRISBURG

Philadelphia, Baltimore,

And Principal Points in

NEW YORK, NEW ENGLAND

—AND—

Pennsylvania.

This Railway extends from

CINCINNATI to NEW YORK, - 860 Miles.

CLEVELAND to NEW YORK, - 625 Miles.

DUNKIRK to NEW YORK, - 460 Miles.

BUFFALO to NEW YORK, - 423 Miles.

ROCHESTER to NEW YORK, - 385 Miles

AND IS FROM

22 to 27 MILES the SHORTER ROUTE.

TWO EXPRESS TRAINS DAILY

Leave CINCINNATI from DEPO, corner Fifth
and Hoadley Streets, by Columbus, O., time,
which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS,

(Sundays excepted.) Arrive Dayton 9.10 A.
M.; Urbana, 10.28 A. M.; Gallion, 1.00 P. M.;
Mansfield, 1.41 P. M.; West Salem, 2.47 P.
M. (Dine); Akron, 4.22 P. M.; Ravenna, 5.00
P. M.; Meadville, 8.00 P. M. (Sleeping
Coach through to New York); Susquehanna,
7.55 A. M. (Breakfast); Turner's, 1.42 P. M.
(Dine); New York, 3.00 P. M. Connects at
Ravenna with Cleveland & Pittsburgh Rail-
road for Hudson and Cleveland; at King-
hampton for Albany and the celebrated sum-
mer resort, Sharon Springs, and at New
York with afternoon trains and steamers for
Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana,
1.25 A. M.; Gallion, 4.05 A. M.; Mansfield,
4.50 A. M.; Akron, 7.32 A. M.; Ravenna, 8.16
A. M.; Leavittsburg, 9.00 A. M. (Breakfast);
Meadville, 11.30 A. M.; Hornellsville, 6.14 P.
M. (Supper); New York, 6.30 A. M. Con-
nects at Mansfield with Pittsburgh, Ft. Wayne
& Chicago Railway for Pittsburgh, Harris-
burg, Philadelphia, &c.; at Meadville with
Franklin Branch for Oil City; at Elmira
with Northern Central Railway for Harris-
burg and the South, and at N. Y. with morn-
ing trains for Boston and N. England cities.

New and Improved Coaches of the style peculiar to the
Broad Gauge, arranged for both Day and Night Travel,
are attached to this train at Cincinnati and run through to
New York, forming the **Only Line** running through
860 Miles without Change.

Boston and New England Passengers,
with their Baggage, are transferred **FREE**
OF CHARGE in New York.

The Erie Railway Company has opened a new
Ferry from their Jersey City Depo to the foot of Twenty-
third Street, New York, thus enabling passengers to reach
the upper portion of the city without the expense and an-
noyance of a street car or omnibus transfer.

The scenery along the entire route of the Erie
Railway is of the most picturesque and beautiful character.
Admirers of Nature's beauties, in a daylight journey over
this line, will find in its ever changing landscapes sub-
jects of continual admiration and interest.

Baggage Check'd Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY,

Which can be obtained at the Company's Offices in Cin-
cinnati, 80 West Fourth Street, 115 Vine St., 4 Burnet
House, and foot of Broadway. (Spencer House Block) and
at all principal Ticket Offices in the South and South-west.
L. D. RUCKER, General Sup't.
W. M. BARR, Gen'l Pass'r Ag't.

CENTRAL RAILROAD

—OF—

NEW-JERSEY.



On and after Monday, May 21, 1886, three Express
Trains will leave New York daily (Sundays excepted) via
Central Railway of New Jersey, and Allentown, leaving
Pier 15, foot of Liberty street, North River, at 7:00 and
9:00 a. m. and 18:00 p. m. On Sundays, one Express Train
at 8:00 p. m.

Passengers by this route save 60 to 130 miles, and Two
Hours' Time over other Lines, with but one change
cars to Chicago or Cincinnati, and but two to St. Louis.
Passengers front be East by Sound Boats or by Rail in the
morning, with time for Breakfast before leaving the
City. Fares always as low as by other Lines.
State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives
at Harrisburg 2 p. m., Pittsburgh 12:15 p. m.

9:00 a. m.—MORNING EXPRESS, for the West. This
train leaves New York Two Hours later than other Lines,
and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with
Lehigh Valley Railway to Mauch Chunk; at Reading with
Philadelphia & Reading Railway for Pottsville, arrives at
Harrisburg at 7:30 p. m. Without change of cars from
New York to Harrisburg.

8:00 p. m.—EVENING EXPRESS, for the West with
but one change to Cincinnati or Chicago, and but two to
St. Louis. This train leaves New York Two Hours later
than other Lines, and arrives at principal places West at
same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives
at New York at 6:00 a. m. next day.

3:00 a. m.—EXPRESS TRAIN, from the West, leaving
Pittsburg at 4:20 p. m.; passes Harrisburg at 3:00 a. m.;
Reading at 4:49 a. m.; Allentown at 6:00 a. m.; Easton at
7:09 a. m. Through cars from Pittsburgh to New York.

9:05 a. m.—FAST LINK, from the West, leaving Pitts-
burg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Read-
ing at 10:52 a. m.; Allentown at 12:42 p. m.; Easton at
1:10 p. m. Through cars from Pittsburgh to New York.

7:25 a. m.—WAY TRAIN, from Harrisburg, passing
Reading at 10:40 a. m.; Allentown 12:20 p. m.; Easton
at 1:35 p. m. Through cars from Harrisburg to New York.
Arrives in New York at 5:20 p. m.

2:10 p. m.—FAST MAIL, from the West, leaving Pitts-
burg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Read-
ing at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at
7:20 p. m. Through cars from Harrisburg to New York
Arrives in New York at 10:45 p. m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO ST. LOUIS & CHICAGO.

Monday June 24.

INDIANAPOLIS & CINCINNATI



RAILROAD.

Three Through Trains Daily.

	Leave.	Arrive.
St. Louis & Chicago Ex.....	7.00 A. M.	9.10 A. M.
Springfield & St. Joseph Ex.....	12.00 P. M.	4.30 P. M.
St. Louis & Chicago Ex.....	4.55 P. M.	12.15 A. M.

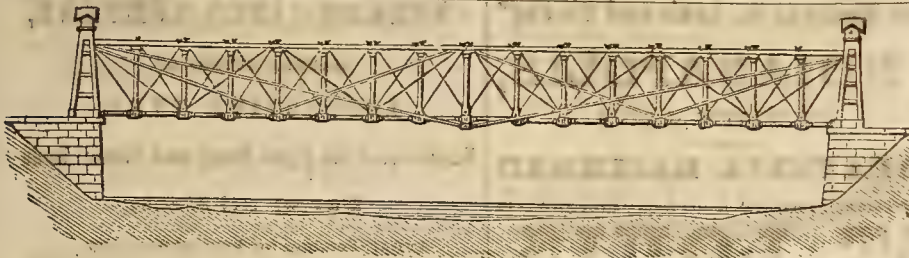
Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Ac- commodation.....	5.15 P. M.	5.05 A. M.
Harrison Accommodation.....	10.10 A. M.	2.25 P. M.

Through Tickets can be obtained at the Burnet House-
Spencer House and Gibson House Offices; also at the
Depot. The Passenger Depot of the Indianapolis & Cin-
cinnati Railroad is within a few squares of all the pri-
cipal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
F. B. LORD General Ticket Agent.



(Plan of Bridge.)

FINK'S PATENT IRON RAILROAD BRIDGE.

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FINK'S PATENT IRON BRIDGE,

In spans from 20 to 300 feet. The same is favorably known, well tested, and already extensively introduced; is stronger and more economical than any other Iron Bridge in use, requires no repairs, and no adjustment, but is perfectly adjustable.

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Would call the attention of Railroad Managers and those interested in Railroad Property, to their system of

LOCOMOTIVE ENGINES,

In which they are adapted to the particular business for which they may be required, by the use of one, two, three or four pair of driving wheels; and the use of the whole, or so much of the weight as may be desirable for adhesion; and in accommodating them to the grades, curves, strength of superstructure, and draft and work to be done. By these means the maximum useful effect of the power is secured with the least expense for attendance, cost of fuel, and repairs to Road and Engine.

With these objects in view, and as the result of twenty five years' practical experience in the business by our senior partner, we manufacture five different kinds of Engines, and several classes or sizes of each kind. Particular attention is paid to the strength of the machine in the plan and workmanship of all the details. Our long experience and opportunity of obtaining information enables us to offer these engines with the assurance that in efficiency, economy and durability they will compare favorably with those of any other kind in use. We also furnish to order Wheels, Axles, Bowling or Low Moor Tire (to fit centers without boring), Composition Castings for Bearings; every description of Corner, Sheet Iron and Boiler Work; and every article appertaining to the repair or renewal of locomotive Engines.

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ENGINEERING & TELEGRAPHIC
INSTRUMENT MAKERS
Philadelphia, Pa.

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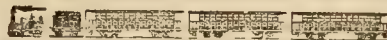
Also engraved in a style corresponding in excellence with that of Bank Notes,

Railroad, State and County Bonds, Bills of Exchange, Checks, Drafts, Certificates of Stock and Deposits, Promissory Notes, Bills and Letter Heads, Visiting and Professional Cards, Notarial, County and Hand Seals, Etc., Etc.

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OIL LANDS,

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*Productive Wells all
around them.*

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LOCOMOTIVE ENGINE



THE SUBSCRIBER OFFERS TO RAILROAD SUPERINTENDENTS, LOCOMOTIVE AND CAR BUILDERS, a Superior Quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his Shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight.

All Springs tested to double their usual load.

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Shops—Seventeenth and Coates St. PHIL.

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Chilled Railroad Car Wheel, Ty

—AND—

Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

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Locomotive Engines.

ORDERS executed promptly. Sent for the celebrated Wheels, either single or double plate with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner; the shortest notice, and on the most reasonable terms.

GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

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BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,

WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**

From Cincinnati to **Baltimore** and but ONE CHANGE to
 or Columbus to **Philadelphia and New York.**

Ask for **TICKETS** and **BAGGAGE CHECKS** via **Baltimore & Ohio R.R.**

J. L. WILSON, Master of Transportation.
 L. M. COLE, General Ticket Agent.
 G. B. GIBSON, General Western Passenger Agent.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at
 the old office, south-east corner of Broadway and Front; Burnet
 House Office, corner Vine and Baker streets, and at the
 respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
 Omnibuses call for passengers.

JANUARY 5th, 1868.**Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph
 Jefferson City, and all points on the Lower Mis-
 sissippi River, and on the the Illinois
 Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Even. Exp.	Seymour Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave " "	12 20 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave " "	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave " "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. & O.,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine
 Street, Corner Front and Broadway; and at Depot, Foot
 Mill Street.

E. C. FOLLET Gen. Passenger Agent
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Best Route to St. Louis and Chicago**INDIANAPOLIS,
CINCINNATI****LAFAYETTE RAILROAD**

Great Through Passenger Route from CINCINNATI to

**ST. LOUIS,
CAIRO,
CHICAGO,**

Memphis, New Orleans, Springfield, Quincy
 Keokuk, St. Joseph, Des Moines, Omaha
 And all Rail and River Towns and Cities in the West,
 North west and South-west.

5 THROUGH TRAINS DAILY,

(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express....	7.00 am	10.50 pm
Indianapolis and Cairo Express.....	6.30 am	2.30 am
Cairo and St. Louis Express.....	3.00 pm	4.08 pm
Springfield, Quincy and St. Joseph Express.....	3.00 pm	4.08 pm
Chicago Lightning Express.....	6.50 pm	11.30 am
St. Louis Lightning Express, Sunday instead of Saturday night.....	11.00 pm	6.15 am

No change of cars between Cincinnati, St. Louis and Chicago.

Elegant Sleeping Cars on all night trains.

ACCOMMODATION TRAINS.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10.10 am	8.35 am
Harrison.....	5.30 pm	9.15 am
Lawrenceburg.....	4.45 pm	2.30 pm

Through Tickets can be obtained at the Burnet House
 Office, corner of Third and Vine; River Office, corner of
 Walnut Street and River; and at Depot, corner of Plum
 and Pearl streets. The splendid Passenger Depot of the
 I. & C. Railroad is about a mile nearer the business center
 of the city than the Depot of any other railroad, and with-
 in a few squares of the Postoffice and principal hotels and
 Steamboat landings.

J. F. RICHARDSON, Superintendent.

A. E. CLARK, General Ticket Agent.

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AND

CORRUGATED IRON ROOFS

ARCHED AND FLAT.



CORRUGATED SHEETS, OF ALL SIZES, CON-
 stantly on hand, painted, and ready for shipment,
 with instructions for applying them.

MOSELEY & CO.
 Boston, Mass.

EDWIN J. HORNER,

Successor to

McDANIEL & HORNER,**Locomotive and Railroad****CAR SPRING MANUFACTURER**

Wilmington, Delaware

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MANUFACTURERS OF

LOCOMOTIVE TYRE,

Engines and Car Axles, Pump and Piston Rods

Bar of all Sizes,

And all Forgings for Railroad Machinery.

Lewistown, Mifflin Co., Penn**JOHN A. WRIGHT, Sup't.**

This Iron is all made from best Juniata cold-blast char-
 coal Pig Iron, refined with Charcoal in the old-fashioned
 Forge Fire, hammered into a Bloom from which Iron
 hammered. The whole operation from ore to finished Iron
 is conducted at our own Works June 29

**THE SCHENECTADY
LOCOMOTIVE WORKS,****SCHENECTADY, N. Y.,**

Continued to receive orders and to furnish with promptness the best and latest improved

**COAL OR WOOD BURNING
LOCOMOTIVE ENGINES**

AND OTHER

Railroad Machinery, Tires, etc.

—AND ALSO TO—

Rebuild and Repair Locomotives.

The above works being located on the New York Central
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 facilities for forwarding their work to any part of the coun-
 try without delay.

JOHN ELLIS, President.

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PASCAL IRON WORKS.

ESTABLISHED 1821.

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MANUFACTURERS OF

Lap-Welded American Charcoal Iron Boiler
 or Flues—from 1½ to 10 inches outside diameter, cut
 to definite lengths.

Wrought Iron Welded Tubes—from ½ inch to
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 tions, for Steam, Gas, Water, or other purposes, and fit-
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Wrought Iron Galvanized Tubes—strong
 and durable, designed especially for Water purposes.

Cast Iron Gas or Water Pipe—1½ to 24 inches in
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Gas Works Castings, etc., etc.

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 THOS. T. TASKER, JR., S. P. M. TASKER
 BY G. MORRIS.

**Philadelphia, Wilmington & Baltimore
RAILROAD!****FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
 Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.
 Leave Baltimore for North and West, 7.35 A. M.; 9.20
 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
 P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore
 at 4.15 A. M., and 11.00 P. M. Leave at
 timore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave
 Wilmington for Philadelphia at 8.30 P. M.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON, - - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - - THURSDAY, AUGUST 5, 1869.

The Railroad Record,

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Mining Resources of the Territories in the Rocky Mountains—The Pacific Railroad.

In January last, Mr. McCOLLUGH, then Secretary of the Treasury, transmitted to Congress the report of R. W. RAYMOND, Special Commissioner on Mining Resources. This work is full of information on what we know little about. We select the "Notes on Montana" to make a little sketch from—of the aspects and resources of that region.

The geological formation of Montana is mostly granite and gneiss, but intermingled often with the tertiary formation. It is in the midst of different kinds of rocks—as between strata, we may say—that the metals are found. On this point, Mr. RAYMOND opines to usual amounts of fiction, as to time, floods, deposits, growth, etc., which geologists delight to indulge in.

The population of the Territory in September, 1868, was supposed to be about 30,000, and the assessments of property came to over \$3,000,000. Taken as a whole, Montana is the most prosperous of our mountain territories. While one part of it laps over the mountains, the Eastern part lies on the head waters of the Missouri. Fort Benton seems to be the uppermost trading point on the Missouri. At this point there arrived, in 1868, thirty-five small steamers. Only small ones can navigate the upper Missouri. Most of them were 150 tons, but some of them less. Half of these boats arrived in June, some in May, and a few in July and August. The reason of this is that the upper Missouri can only be navigated at the season of floods, and these begin in May, are at their height in June, and gradually subside. The rise of the Missouri and of the Mississippi is produced in

the same manner with those of the Nile: by the melting of snows, and spring rains on the mountains. These produce their full effect in the Mississippi in June.

Ultimately, there must be a railroad from Fort Benton down to some lower point on the Missouri—say to the mouth of the Yellowstone; but the making of the Northern Pacific Railroad will, probably, accomplish all for Montana that is needed. This great work (for great it will be) seems now certain to be made. We have advocated it in these columns with all the energy we could. In our opinion it is destined far to surpass in advantages those of the Union Pacific. It will be a shorter line of railroad, and when arrived on Puget's Sound, will present a shorter line of navigation to Asia.

On this subject, Mr. RAYMOND gives a letter from Capt. DE LACY, from which we extract the following paragraphs:

"This map, in all essential points is very correct. The line of the projected railroad is represented as crossing the Yellowstone river at Onahatroup (or Coal) creek, going up the river some distance; thence crossing to the head of the Musselshell river; thence down Deep creek to its mouth on the Missouri river; thence crossing the Rocky mountains at Lewis and Clarke's, or Cadotte's Pass, both on the head of the Dearborn river; thence proceeding down the Big Blackfoot to the Hellgate, and thence down the Clarke's Fork of the Columbia, where it passes without the boundaries of the Territory. I would remark, briefly, that I am personally acquainted with almost the whole of this route, except the extensive eastern section on the Yellowstone river, and that it is remarkably favorable for a railroad.

"There are no heavy mountains between the Yellowstone and Musselshell, the country partaking rather of a high rolling plateau. There is a very low open pass at the head of the Musselshell river, and the passes of the Rocky mountains are not above 6,500 feet high. The approach to these passes is not generally difficult, and timber of fine quality, (chiefly pine,) water, and fine building stone abound.

"There is another route which would go down the Yellowstone to the Big Bend, cross over by the Boseman Pass to the Three Forks of the Missouri river; thence up the Jefferson to the Big Hole, or Wisdom river, cross the Rocky mountains at the Deer Lodge Pass, which is about two miles wide, and thence down the Deer Lodge and Hellgate rivers to the mouth of the Big Blackfoot, where it would intersect the line previously spoken of. This route would be longer than the one by the head of the Musselshell, and longer than that north of the Missouri surveyed by Governor Stevens; but it would have the advantage of passing through some of the finest agricultural valleys of the Territories; also through some of the richest mineral districts. The difficulties of construction would be less, and the grades easier, than on any other route with which I am acquainted. Coal has been found in many places on or near both of the lines spoken of, such as on the Yellowstone, in several places, the Musselshell river, and also the Judith at Boseman's Pass, and on the Dearborn. These deposits are more properly lignites. Two of them have been tried; one

of them, at Boseman's Pass, in making gas, and the other at the Dearborn, in a grate. Both succeeded well. I have been informed that the lignites from the neighborhood of Mount Diablo, in California, are used with success on board the coast steamers.

"There is a great deal of excellent land along the Yellowstone, and on the large tributaries."

It has been confidently maintained, that there is and must be more snow on the Northern route than on the Central; but this is not the fact, and from the accounts recently given, it seems to be demonstrated that the Union Pacific had actually succeeded in finding the line of most snow. This, however, is not a new fact, for we pointed it out at least fifteen years ago, and has been fully sustained by all the reports of Government and Army officers made since. Capt. DE LACY says:

"I would say, therefore, that in open valleys, such as that near Helena, the Deer Lodge valley, etc., the snow seldom becomes deeper than one foot, and that in deep, narrow gorges, where the sun can not reach it, or where the timber may be thick, the depth of snow generally reaches from two to two and a half feet. In ascending the hills, particularly on their northern slopes, the snow becomes deeper, but I doubt whether, even at the highest summits, it ever reaches the depth of 10 feet, judging by the trees. The southern slopes of the hills, or those opposed to the sun, are generally bare, and horses and cattle there pick up a comfortable subsistence. The winter does not become severe, nor does much snow fall until after the first of January. During that month there are generally ten days or two weeks when the thermometer ranges from zero to 30°, and even 40° below. The rest of the season is not generally as severe as in the northern parts of Maine, Vermont, or Massachusetts. I would further add, that once in about 10 or 12 years, according to the observations of old mountaineers, there comes an extraordinary winter, when a much greater quantity of snow falls than usual. Such a one was the winter of 1860-61, when vast numbers of horses and cattle perished in consequence of the depth of the snow. This occurs, however, in all northern countries.

In further elucidation of the matter I will state that, on the 23d and 24th of December, 1867, I crossed the Belt mountains, east of the Missouri, twice; once at the head of Confederate gulch, and again at the head of Musselshell river, and returned about the 1st of January. The utmost depth of snow that I found on either summit was about one foot. In going the cold was very severe, but on my return the weather was mild and pleasant."

It is very evident from this statement, that no more snow falls on this route, than does in New England, and in fact, not so much. There is, therefore, no sort of danger that snow will embarrass the success of the Northern Pacific Road. It is very evident to us that if the Union Pacific be a success, the Northern Pacific must be more so. Much of the success and prosperity of all our Northern territories must, in our opinion, depend on the making of the Northern Pacific Railroad.

Of mines in Montana, there are two kinds,

the "placer" and the "quartz" mines. The former are found mostly in what are called the "gulches," and require water for their operation. Of these, Mr. RAYMOND states two facts: that the mines (placer) yielded 20 per cent. more in 1868, than in the year before, and that these gulches contain richer deposits when dug deeper, than any they have yet yielded. From time to time, the gulches opened have been abandoned for new ones, but they are often returned to and found richer when digging deeper, than at first.

The "quartz" mines have also yielded much larger products than in the year previous. The gold is crushed out of the quartz rock by mills with "stamps." There are in the Territory 500 stamps, and the greater part of them are remunerative.

The total product of Montana is estimated at \$15,000,000, and this is, probably, the best yield in proportion to the means used, of any of the mining territories. In looking over the facts given by Mr. RAYMOND, we can not fail to see two things: that there is a great want of thoroughness in mining, and that there is great want of railroads.

Mr. R. mentions the shipment of ore (black copper ore) from this mountainous territory to Europe, to be properly crushed and analyzed! The expense is about \$70.00 per ton; so that if it yields \$100.00 per ton, it will pay to do even that. But why not have the machinery and the skill on hand to do it? And why not make our Northern Pacific Railroad? The more we look into the subject, the more convinced we are that no public work on this continent will accomplish as much real good, or develop the resources of the Northern portion of our country, as much or as rapidly as the Northern Pacific Railroad.

If the Government will not grant cash, or rather credit aid to this work, they are at least pledged to give the lands along the line. The lands will be a good basis of capital to justify a company to do the work. It is very evident from the reports of engineers, that much of the land on the Northern Pacific is very good, and that the country will be much easier settled than that on the Union. Then let the road be made!

RAILROADS IN IOWA—It is stated that Iowa will soon have four railroads connecting the Mississippi and Missouri Rivers. The great center line, extending from Davenport to Council Bluffs, is just completed and in successful operation. Two others, one beginning at Dubuque and already built to Fort Dodge, and the other at Burlington, will be completed in a few months. In addition to these there are now building the McGregor and Sioux City line, to be completed to Sioux City by January 1, the St. Louis and Cedar Rapids and Minnesota road, the Fort Madison and Burlington road, the Iowa River road, the Iowa Central, the Des Moines and Indianola and the Decorah Branch.—*Am. R. R. Jour.*

The Southern Railroad.

CHATTANOOGA, TENN., July 29, 1869.

The seeming delay by the Board of Trustees of the Cincinnati Southern Railroad in the construction of the road, is causing grave apprehensions among the most far seeing railroad men of the South, and also among the business men of this country.

I can not better express their views than by copying a letter recently received from Col. E. Hulbert, Superintendent Western and Atlantic Railroad, whose views I heartily endorse.

"WESTERN AND ATLANTIC RAILROAD,
SUPERINTENDENT'S OFFICE,
ATLANTA, GA., July 15, 1869."

"Colonel Wm. B. Gaw, Superintendent Tennessee River Improvement, Chattanooga, Tenn.:

DEAR COLONEL.—Yours of the 12th and 13th just received and carefully noted. If our Cincinnati friends wait till they secure favorable action by the Kentucky Legislature in behalf of their proposed road, they will never build it. The Louisville and Nashville Railroad runs the Kentucky Legislature.

"The true plan for them to pursue is to purchase the Kentucky Central, purchase the charter intervening between that road and the Tennessee line, purchase the charter from Tennessee line to Chattanooga, and make some satisfactory arrangements with the Stantons, and proceed to build the road at once. The hue of action which they have laid down for themselves will result in a complete failure.

"I regret very much to see this, I was in hopes that they would take a common sense business view of the question and proceed with their work at once. The delay will have a very disheartening influence upon our people and upon the various railroad projects in connection with the proposed route.

Yours, &c,

"E. HULBERT, Supt."

I know of no man whose opinion in relation to railroad matters in the South I would sooner take than Colonel Hulbert's.

As to the practicability of making the necessary arrangements with the Stantons, I am permitted to publish the following letter from D. N. Stanton, President of the Alabama and Chattanooga Railroad Company, and President of the Southern Section of the Cincinnati Southern Railroad:

"OFFICE OF THE ALABAMA AND CHATTANOOGA
RAILROAD Co., 25 Merchants' Exchange,
BOSTON, July 23, 1869."

"Colonel W. B. Gaw, Chattanooga, Tenn.:

"DEAR SIR:—This morning yours of the 19th inst., with inclosed slip of paper, came to hand. Now in regard to the railroad from Cincinnati to Chattanooga, it depends alone on the former city whether the road is built early, or late, or never. So far as those with whom I am dealing are concerned, they are ready to act strongly and energetically, but they will always be governed by what seems to them to be prudent in the premises. They do not propose to dash in without first thoroughly investigating the chances of success or failure, and as for the failure, they do not like to make its acquaintance.

"Two millions (\$2,000,000) of dollars have been subscribed in good faith for the purpose of assisting the building of the road to Chattanooga, and whenever it proves clear that the road is to be completed, the sum can, with ur-

gent and proper exertion, be increased to an amount sufficient to build and put into operation the road from the city of Cincinnati to Chattanooga, coupled with the amount lately voted by Cincinnati.

"Yesterday a Board of Directors were elected for the purpose of commencing the work in Tennessee, just as soon as some fair trade or understanding can be had with the Trustees of Cincinnati. Messrs. Divine and Crutchfield, of Chattanooga, were elected Directors. You can see and fully comprehend without my saying a word more on the subject, that I am doing all that can be done to forward the execution of this great and valuable enterprise to your city, and to the whole country along its borders, and with your business capacity and knowledge of such matters, I am sure that you will be convinced that I could not, with justice to those who lean on me to guide them safely through, act any faster or more to the point than I have. Men of prudence and sagacity would not be likely to embark in such a gigantic undertaking without first knowing that ample means had been provided to secure the completion beyond a peradventure or doubt. Cincinnati needs the road; the country through which it will pass needs it, and all, receiving such benefits, can afford to be liberal for the purpose of guaranteeing the building and equipping of it at an early period.

"Chattanooga is the only true Southern point to make, and to build it elsewhere would simply be the height of folly and the ultimate defeat and total failure of Cincinnati in securing to herself for all time the trade which she is seeking to gain from the productive South. No where else can she control it, for in no other place is it to be found in such abundance.

"My friends are willing that I should rivet their interest with Cincinnati and Chattanooga, to be one and the same in all respects. They will ally their interests and force, at a day's notice, on these terms. In short, they mean nothing more nor less than *bona fide* business, and of that you may rest assured, and you are at liberty to proclaim that kind of doctrine to the utmost of your ability. There will be no bickering, hesitating or prevaricating, but straightforward, plain business. The money is ready to pay all bills that we contract, but we do not propose to contract any until we know what latitude we are in and the point that we are sailing for.

"I am, dear sir, yours, very truly,

"D. N. STANTON."

It is not necessary for me to add anything to these letters. I only hope that you will call the attention of the public, as well as of the Trustees, to the facts embraced in them, and that some understanding may speedily be arrived at which will insure the speedy completion of a road, without which neither Cincinnati nor the South can be assured of a prosperous career in the future.

Very respectfully,

WM. B. GAW,

Chief Engineer C. and O. R. R., Supt Tennessee River Improvement.

A correspondent of the Hagerstown Mail says that the Cumberland Valley Railroad Company will commence operations on the extension of their road from Hagerstown to Williamsport about the first of August, and expect to have it in running order by the 1st of December.—*Am. R. R. Jour.*

Indiana Railroads.

The following is a statement of the number of miles of railway in the State of Indiana. The distances of roads continuous from other States are given through Indiana only:

Railways in Operation or nearly Completed.

	Miles
Jeffersonville, Madison & Indianapolis	198
Columbus, and Madison Branch	45
Columbus, Shelbyville and Rushville to Cambridge	65
Jeffersonville and New Albany	4
Indianapolis and Terra Haute air line	80
Indianapolis, Peru and Chicago	75
Indianapolis, Cincinnati and Lafayette	170
White Water Valley	80
Louisville, New Albany and Chicago	288
Evansville and Crawfordsville	132
Bellevue and Indianapolis Junction	84
Cincinnati and Indianapolis Junction	79
Newcastle Branch	25
Ohio and Mississippi	174
Pittsburg, Fort Wayne and Chicago	148
Toledo, Wabash and Western	167
Michigan Southern & Northern Indiana	173
Michigan Central	45
Martinsville to Fairland	39
Indianapolis, Vincennes and Cairo	414
Indianapolis, Crawfordsville & Danville	78
Peru, Plymouth, Laporte & Michigan City	97

Total completed, or nearly finished 2,720

Railways Projected.

Some of these are in active progress, and with one or two exceptions all are organized, with articles of association filed in the office of the Secretary of State. In this list it is impossible to discriminate between the practicable and visionary enterprises. In many cases we give the important points on the routes rather than the corporate names of the roads:

	Miles.
Cincinnati, Richmond, Muncie, Fort Wayne and Jackson, Michigan	122
Indiana, and Illinois Central, Indianapolis to Decatur, Illinois	75
New Albany, Mt. Carmel and St. Louis Air Line	107
Danville, Illinois, Clinton, Brazil, Worthington & Rockport to Owensboro Kentucky	210
Terre Haute, Bloomfield and Bedford	80
Rockville, Crawfordsville, Frankfort & Logansport	62
South Bend and St. Joseph	7
Indianapolis, Delphi and Chicago Air Line	140
Indianapolis, Terre Haute and St. Louis	75
Terre Haute, Danville and Chicago	42
Peru, Warsaw, Goshen & White Pigeon, Michigan	98
Logansport, Eel River and Detroit, from Detroit Michigan, via Logansport and Oxford, to Paxton, Illinois	162
Muncie, or Anderson, Lafayette and Bloomington, Illinois	150
Indiana & Illinois Commercial Railroad	32
Evansville, Carmi and Paducah	30
Evansville & Indianapolis Air Line to Worthington	90
Evansville and Booneville	30
North Vernon and Louisville	55
Richmond and Winchester	20
Evansville and St. Louis	30
Lake Michigan, Wabash and Cincinnati, (from Elkhart, via Goshen and Warsaw to Muncie, with a terminus at a point not named, in Henry or Wayne county)	120

Terre Haute, Attica & Chicago, via Crown Point	128
Raccoon Valley Railroad (Ladoga to Valley City)	5½
Mitchell, Bloomfield and Terre Haute	80
American Central Railroad, Fort Wayne, to Laconia, Illinois	123
Mount Vernon and Grayville, Illinois	27
Grand Trunk of Northern Indiana; Niles, Michigan, to Chicago	60
Lima, Ohio, to Logansport	83
Portland and Union	19
Elkhart to Niles, Michigan	9
Worthington, Sullivan and Merom	36
Vincennes and St. Francis	10
Cincinnati and New Albany	100
Goshen to Middleport	100

Total number of miles projected 2,552

Number of miles of railway completed in Indiana 2,720

Total number miles of railway completed and projected 5,272

Estimated value of railways in operation in Indiana, on the basis of \$30,000 per mile \$81,600,000

Estimate of expenditures for the projected railways on the basis of \$25,000 a mile \$63,800,000

Total estimated cost of railways built and proposed \$145,000,000

The Steel Rail Question.

The annual report of the State Engineer of New York, prepared by S. H. Sweet, Deputy Engineer, contains the following regarding steel rails:—Bessemer steel rails have been in regular and extensive use abroad, over ten years. For some five years large trial lots have been laid on various American roads having heavy traffic, and during the last two years importations have largely increased. The manufacture of steel rails has also been commenced at four large establishments in this country, and some 7,000 tons of home manufacture have been produced and laid down. It is estimated that from 40,000 to 50,000 tons of steel rails are in use on our various railways. Among the users of steel rails are the Hudson River, Erie, and Pennsylvania Railway—10,000 tons or more each; the Lehigh and Susquehanna (entirely built of steel); also the Philadelphia and Baltimore; Camden and Amboy line; Lehigh Valley; New York Central; New York and New Haven; Naugatuck; Morris and Essex; Cumberland Valley; South Carolina; Chicago and North-western; Chicago and Rock Island; Chicago and Alton; Michigan Central; Lake Shore line; Chicago, Burlington and Quincy; Pittsburg, Fort Wayne and Chicago; also the Boston and Providence, Boston and Worcester, Boston and Maine, Boston and Albany, Eastern, Connecticut River and other lines in New England.

The Wear of Steel Rails.—As no steel rails are reported to have worn out on our roads, the comparative durability of steel and iron can not be absolutely determined. The President of the Philadelphia and Baltimore Railway states (in the letter before quoted) that the use of steel commenced in 1864, that the rails (25 miles in all) were laid on the most trying parts of the line; that none have been taken up on account of breakage, wear or defect; that upon the portion of the line near Philadelphia, the first steel rail imported had already worn out sixteen iron rails;

and that none of the steel rails have shown any imperfection, but are all wearing smoothly and truly.

On the Pennsylvania Railway, the report of the Chief Engineer for 1868 states that 11,494 tons of steel rails had been purchased, and 9,956 tons laid. The first were laid in 1864. They are all wearing smoothly, showing no change except the slight diminution of section to be reasonably expected from the heavy traffic. No steel rails have yet worn out. The report of the Superintendent (Feb., 1869.) says: "The use of steel rails continues, with satisfactory results, and 4,544 tons of this material have been laid since date of last report." It is officially reported that on the Camden and Amboy line, some of the steel rails laid three years ago are now good in places where iron lasted but a few months.

The last report of the Engineer of the Lehigh Valley Railway says:—"Another year's wear has made no perceptible impression upon the 200 tons (of steel rails), the first of which was laid in May, 1864, none of which have broken or given out since last report. These rails have had a severe test, being in those places in the track where they are subject to the greatest wear, being laid with a chair which is much inferior to the most approved joint now in use. There is no longer any possible doubt as to the superiority of steel over iron in economy, as in every other respect."

Unofficial reports from the Erie, Hudson River and other roads show that the above statements represent the average quality of steel rails. The last report of the New York and New Haven Railway states that "the subject of steel rails has received special attention, and after a careful investigation of all the points involved, it has been determined hereafter to make all renewals of track with steel rails only; 2,900 tons of Bessemer steel rails have been contracted for on account of renewals for the present year." The report of the Morris and Essex Railway for 1868 says: "During the last year one track through the tunnel has been relaid with steel"—also some 150 tons of steel laid elsewhere. "The wear of steel shows conclusively that economy will require its use on all heavy grades and sharp curves." The last report of the New Jersey Railway and Transportation Company says: "It is probable that steel rails will be gradually laid the entire length of the road, the greater durability of these rails, overcoming the objection to their increased cost."

Within the last three years, two notable papers have been read before the Institution of Civil Engineers, in London, upon the maintenance of way and the wear of rails—the papers of Mr. Price Williams and Mr. C. P. Sandberg. They were followed by prolonged discussions, in which the makers of iron rails took a conspicuous part, lecturing the engineers on professional subjects. The general facts and conclusions elicited have been published in the various engineering periodicals, and are extremely favorable to steel for lines of heavy traffic. A great number of instances of the comparative wear of steel were cited. In one case 23 iron rails had been worn out, where a steel rail, laid end to end with the iron, was not yet worn down. In other cases the wear was 17 to 1. It is conceded that any steel rail will outlast 6 iron rails. In fact, the remarkable wearing qualities of steel rails have never been doubted or questioned.

Breakage of Steel Rails.—Some steel rails of English, French and American manufac-

ture have broken in service. In several cases the cause has been ascertained by the direct analysis of the broken rail. The cause was phosphorus. In some other cases, where analysis were not made, the general character of the iron used has been ascertained, and the trouble has been inferred to be phosphorus, or, in some cases, an excess of silicon. It is well known to steel makers that a very minute proportion of phosphorus (above .02 per cent.) will make Bessemer steel brittle. In other cases, rails have broken at the mark of the "gag" or instrument for straightening the rail cold. The rails had not been properly hot straightened, or were finished at too low a heat. More rails have broken through punched fish-bolt holes and at punched nicks in the flange, than at any other places. Experiments prove that punching a hole in a steel rail sufficiently hard to wear well, weakens it. Three or four rails are reported to have broken, or rather crumbled, by reason of large flaws. Upon examination it was found in one case, that a steel rail end had been placed in the ingot mould, and that the liquid steel poured around it had not perfectly united to it. This practice in casting was therefore abandoned. In another case, a lump of clay appeared to have fallen into the mould and to have become cast into the ingot. In another case, too much of the slag end of the ingot had been left upon the rail—in other words, the rail had been sent out in an unfinished state. These causes of failure will be again referred to.

The total breakage of steel rails, in this country, and the comparative breakage of steel and iron have not been reported. The total breakage of steel on several roads has been officially reported. Upon Jan. 1st, 1869, on the Hudson River Railway, out of eleven thousand tons of steel rails in use, some of which had been laid three years, eleven rails had been broken. The greater number of these rails were in use during the excessively cold winter 1867-68, when it was unofficially reported that 113 iron rails broke in one day on this railway, and when it was officially stated that one thousand iron rails broke in one month on the Erie Railway.

On the Erie Railway, out of 8,000 tons of steel rails in use Jan. 1, ten rails had broken. Some 800 tons of these rails were of American manufacture, and none of them have broken. Upon the main line from New York to Philadelphia, a small quantity of steel rails were laid four years ago, and 200 tons of very slender steel rails, two years ago. The rest of the steel on this line was laid in 1868. Out of the entire 1,500 tons in use, one rail has broken. Upon the Philadelphia, Wilmington and Baltimore Railway, the President, Mr. Hinckley, states (in a letter before quoted) that of 25 miles (say 2,400 tons) of steel rails "we have never broken one in use, not taken up one on account of wear or defect." The Chief Engineer of the Pennsylvania Railway, reports that "some lots of American steel received have been found too hard and brittle, having a tendency to break easily; these have been carefully excluded from main tracks. The recent American steel rails furnished have been found fully equal in toughness and wear to the best foreign steel, having been subjected to severe tests under a falling weight."

On the other hand, a bad lot of steel rails have been removed from the track of the Reading Railway, and the breaking of some steel rails on the Michigan Central Railway is reported, although the use of steel is continued on that line. Mr. Jas. F. Joy, President

of the Chicago, Burlington and Quincy Railway and of the Michigan Central Railway, reports as follows, as to the use of steel rails (3 miles) on the former road: "The result has thus far not been such as to encourage the Board in an extended use of it in the ordinary track of the road." As to the results of 3 miles of steel on the Michigan Central, Mr. Joy says: "The steel rail thus far has hardly borne the test, having been found more liable to break than iron. As the average life of iron on the road is about eight years, it is somewhat more than questionable if it will be found economical to substitute steel for iron in the track of the road. At stations and where the life of the iron is short from great wear it is expedient, perhaps, to make the substitution."

It is rather a remarkable fact, however, that the Superintendent, Mr. H. E. Sargent, in the same report of the Michigan Central, says: "Three hundred tons of English steel rail, manufactured by John Brown & Co., after the Bessemer process, were laid early last year in some places where exposed to severe service. They have worked well thus far, hardly showing perceptible wear at any point."

In the absence of further official information, it is fair to assume that the breakage of steel rails is only a small percentage of the breakage of the iron rails. Indeed, the latter is of daily occurrence, and is rarely considered by the public, except when lives are lost, and not always by the railway managers when they are making contracts.

Tests and Improvements—The very important question now arises—Can steel rails be relied upon to give the satisfactory results above quoted, or improved results—can the evil of breaking be practically overcome? We have seen that the chief and useful cause of brittleness is phosphorus. It is well known that the great deposits of iron ore in this country, such as the Iron Mountain and Lake Superior, are practically free from this impurity. The quality of the ores in this and adjacent States is various. Those of the Housatonic valley are generally well adapted to steel making; the magnetic deposits of Lake Champlain are generally unsuitable. The cheap charcoal irons of Alabama, Virginia and Tennessee are generally very pure. The Cumberland irons of England, made especially for Bessemer steel, and used by Brown, Cammell and other first-class makers there, have also been imported to our steel works at reasonable rates. But however plentiful the ores suitable for steel may be in this country, great care in smelting and in the selection of fluxes will be indispensable to a uniform product. The manufacture of pig iron in this country has been so remunerative, that iron-masters have not heretofore felt impelled to introduce the refinements that characterize the smelting process abroad. A uniformly had iron would, of course, be avoided by the steel-makers—the danger lies in the creeping in of impurities, by reason of improper manufacture, when the *general character of the iron is good*. This cause of failure may obviously be avoided.

Upon the introduction of the new manufacture in this country, our steel makers appear to have made the natural but inexcusable mistake of neglecting analyses, critical inspections and rigid tests. This error was copied from the early English practice. In both cases it led to uncertain results, and injured the reputation of the product. Now it is reported by our steel-makers that they buy no irons until after they are specially analyzed;

that they mix a large number of irons for each charge of steel, so that any accidental impurities in one may be largely diluted; that they test all charges of steel by welding, cold bending and otherwise; and that they test rail ends from each charge of steel made. One steel axle maker advises that he makes each axle four feet longer than required, and tests it by dropping a 1,640 lb. weight 5 times upon this end from a height of 20 feet.

The punching of steel rails has been abandoned. Several kinds of power and hand drilling machines have been introduced, that do the work rapidly and well. The loss from the neutral axis of a rail, of the little material necessary to let a bolt through, can not sensibly weaken it. To prevent the rails from creeping, the engineer of the Pennsylvania Railway pins them to several sleepers by means of $\frac{3}{4}$ inch holes drilled in the flange. There are also other and better devices for preventing end movement, which do not weaken the rail at all. The grand advantage of steel, for service under concussion and wear, is its homogeneity. Having been cast from a liquid state, it is sound and uniform, and free from the laminations and layers of cinder and numerous welds which characterize wrought iron, especially the low grades of wrought iron, usually put into rails.

The tests above referred to would appear to amount to a guarantee against rails breaking in the track. The causes of failure mentioned, are obviously not a necessary feature of the Bessemer process, nor is uncertainty regarding the quality of the product an inherent difficulty. Perhaps no metallurgical process is more simple and less liable to variable features and results, *provided always* that the iron, and the other materials and the machinery employed, are of good quality. Mistakes in the process of manufacture are of very rare occurrence, because it is trouble to go right than to go wrong, and because the manufacture is in a very small degree dependent on the skill and judgment of the workmen. Melted cast iron is weighted into the converter, a steady blast is applied to it until the flame suddenly and unmistakably drops and changes color, indicating the complete removal of the carbon, and then a quantity of recarburizing material is added by weight. There is no guess-work at any stage of the process, and the absolute determinations of the spectroscope may, if required, be employed as to the period of decarburization.

Bad refractory materials, impure coal, weak and fluctuating blast, and careless management of the casting, contribute to produce defective steel; but the chief uncertainty, in this country, has been in the pig iron. The experience of the Pennsylvania Railway, before quoted, proves, however, that this difficulty has been avoided. And the results at the Cumberland furnaces, in England, are remarkable proofs that *uniformity* and excellence of quality are a simple question of blast furnace construction and management, when the coal and ores are reasonably pure. Notwithstanding the searching character of the tests referred to, the trial bar and the trial rail-end from each charge, it has been considered desirable to establish a still more certain and comprehensive system of tests, and to improve the manufacture by ascertaining the effects of different processes and treatment upon the ingots. To this end, preparations have been commenced at one of the steel works in this country, to determine, at whatever expense of time and money may be necessary—1st. What reasonably rapid and convenient test of steel rails and axles will represent in kind

(though, of course, exaggerating in degree) the test of actual service. The heavy weight falling upon rails is objected to on various grounds. It does not prove that the rail will stand numerous blows accompanied by flexure, and it may prove that the rail is too soft to wear well. 2d. The exact effect of temperature upon the strength of steel of various grades. 3d. The effect of annealing upon the strength and durability of steel rails. 4th. The effect, as to strength and durability, of drawing down rails from ingots of large size, as compared with drawing them down from ingots of small size—the exact value of reduction. 5th. The comparative effect, as to strength and durability, of drawing the ingots, at the first stage, under the hammer or in the rolls. However valuable the effect of hammering may be upon wrought iron—squeezing out the cinders and perfecting the weld in detail—the conditions of steel are totally different. Steel has no cinder, and is already homogeneous, requiring no welds. It is, therefore, probable, that while hammering might make the mass a little more dense and hard, rolling would produce the more uniform structure and the more soft and ductile product. 6th. The uniformity of ingots from the same charge of steel. It is obvious that all parts of a ladle full of liquid steel, having been boiled together and thoroughly mixed, should be alike mechanically. Any chemical differences would be impossible at so high a temperature—some 5,000 deg. Fahr. Some experiments were recently made for the Central Railway of Orleans, to test this and other features of Bessemer steel. The result showed the practical identity, not only of two ingots chosen at random from the same charge, but of the various charges under experiment.

Iron and Steel—The New Processes for their Manufacture.

The iron interest in the United States is daily increasing in magnitude and importance. Iron is our most precious and abundant metal, and, before the lapse of the next twenty-five years, it will bring us larger returns than all the other metals combined. The great abundance of its ores in all parts of the country has made us careless of its value, to some extent, and we have allowed importations from England, Russia and Sweden to substitute a certain amount of our home manufacture, but the time is close at hand when all this will be remedied, and we will export to England, Russia and Sweden, if we desire, a better article than it is now in their power to produce. American ores make the toughest iron in the world, and it is already matter of wonder to English engineers that we import any rail at all. Everything connected with this subject is of interest to the American reader, whatever his occupation, and the improved processes, of which there are four now maturing, for making iron and steel, are attracting unusual interest. Two, the SLEMAN process and the ELLERSHAUSEN process, are for the conversion of the ore into iron, while the BESSEMER and the HEATON processes are for converting the iron into steel. The SLEMAN process consists in converting the coal into gas before it is made to supply the flame used in smelting. By this it is contended that a vast saving in fuel is obtained, and the sulphurous and phosphorescent varieties of coal become available for manufacturing iron, as the sulphur and phosphorus do not enter into the gas, but pass off before the flame comes in contact with the iron. This process

has been under experiment for three years. The ELLERSHAUSEN process dates but a few months back, and is being tested for the first time in several of the furnaces of Pennsylvania. It converts the crude metal, as it runs from the furnace, into wrought iron, dispensing entirely with the expensive process of puddling. The experiments already show, that with the same amount of ore, labor and coal, 30 per cent. more of iron can be produced, and of a better quality than by the old process.

The BESSEMER invention converts iron into steel, which is an alloy of iron and carbon, the latter being in the proportion of from five to ten per cent. The manufacture of steel in the ordinary way, by the BESSEMER process, and by the HEATON process, which is the latest improvement on the BESSEMER, is thus described in *Herapath's Journal*:

"In the manufacture of steel in the ordinary way, the raw ore is first made into cast iron, which is puddled and made into wrought iron bars about 3 in. by $\frac{1}{2}$. These are converted into steel by cementing in a close furnace with charcoal, from which they absorb the requisite carbon. They are then melted in crucibles and cast into ingots. Here we have a complicated and round-about process. The iron in the ore is first impregnated with carbon to excess in the blast furnace, then robbed of it in the puddling furnace, and then impregnated again with a less quantity in the converting furnace; but the steel made by the process is of such a superior quality that for the higher classes of uses, where quality is of more importance than cost, neither the Bessemer nor other process for making steel direct from pig iron, is for the present, at least, likely to supersede it.

"The Bessemer process, as is well known, consists in blowing air into molten cast iron contained in a vessel termed the converter—the oxygen of the air coming in contact with the carbon in iron, combustion issues, and the carbon is burnt out; a small quantity of spiegeleisen is then added to give the exact dose of carbon requisite to produce the quality of steel desired. Now it is found that if the iron operated upon contains impurities, such as phosphorus, sulphur, and silican, that they are not removed by this process, so that only the high-class irons can be employed, which are, of course, expensive. Nevertheless, the process is so economical that good Bessemer steel rails can be sold at a price only about 50 per cent. more than that of ordinary iron rails. Mr. Heaton professes that by this process the common qualities of iron may be employed, and that he can consequently produce good steel at a less price than can be made by the Bessemer process. Mr. Heaton effects the conversion of cast iron into steel by means of nitrate of soda, about 2 cwt of which for each ton of steel to be made, is placed in the bottom of the converting vessel and covered with a perforated cast iron plate. The molten cast iron is then run into the converter. Its heat decomposes the nitrate and sets free its oxygen, which combines with and burns the carbon out of the iron, while the soda, we presume, effects the same object with regard to the sulphur, phosphorus and other impurities; the result being a steel of good quality from iron unsuited for the Bessemer or any other known process for making steel direct from cast iron."

The effect of these great improvements is daily manifesting itself in different parts of the world, especially in this country, not only to render the manufacture of iron practicable at points which have hitherto been compelled

to introduce it from abroad, but to cheapen the price of both iron and steel to an extent that is matter of surprise to the manufacturers themselves. Before 1880, the United States may safely promise to lead the world in the manufacture of iron.—*Cincinnati Bulletin*.

Immigration.

During the thirteen years from 1856 to 1868 inclusive, there have arrived in the United States 2,938,296 persons, of whom 372,652 were natives of the country, and 2,565,644 were aliens, or persons of foreign birth. Classing them by Nationalities, we find there have arrived during that period of

English.....	194,166
Irish.....	560,831
Scotch.....	25,829
Welsh.....	5,756
British (not specified).....	429,018

Making, from the British Isles.....	1,215,600
British Americans.....	108,531

Total British subjects.....	1,324,131
Germans.....	845,479
Chinamen.....	65,943
Prussians.....	64,355
Swedes and Norwegians.....	58,289
French.....	49,383
Swiss.....	24,539
Italians.....	11,691
Spaniards.....	10,340
Danes.....	13,043
Dutch.....	11,205
West Indians.....	8,590
Belgians.....	8,245
Azoreans.....	4,588
Mexicans.....	3,351
Poles.....	2,209
Portuguese.....	2,090
Cubans.....	1,956
South Americans (not specified).....	1,889
Russians.....	1,761
Austrians.....	1,592
Sardinians.....	1,397
Hungarians.....	487
Central Americans.....	391
Sicilians.....	337
Australians.....	185
Africans.....	321
Venezuelans, Peruvians, Brazilians, Buenos Ayreans, New Granadans, and Paraguayans.....	131
British West Indians, Haytiens, Porto Ricans, Sandwich Islanders, E. I. Islanders, and New Zealanders.....	337
Maltese, Greeks, Japanese, East Indians, Arabians, Syrians, Persians, and Asiatics.....	252
Cape of Good Hope Africans, Liberians, Egyptians, Abyssinians, Guianaens, and Society Islanders.....	178
Bermudians, Cape de Verds, Madeira, St. Helena, Canary Islanders, Icelanders.....	262
Born at Sea.....	4
Nationalities not specified.....	46,532

The occupations of the immigrants as given shows that there were of

Laborers.....	515,217
Farmers.....	264,949
Mechanics.....	196,503
Merchants.....	138,214
Miners.....	71,414
Servants.....	68,628
Mariners.....	20,988
Clerks.....	13,864

Bakers.....	5,380
Butchers.....	4,658
Seamstresses and Milliners.....	3,770
Physicians.....	3,736
Artists.....	3,561
Clergymen.....	3,322
Weavers and Spinners.....	2,866
Tailors.....	2,151
Shoemakers.....	2,128
Lawyers.....	1,942
Manufacturers.....	1,696
Engineers.....	1,315
Teachers.....	809
Masons.....	799
Millers.....	497
Musicians.....	450
Actors.....	378
Painters.....	363
Printers.....	247
Hatters.....	26
All other occupations.....	5 984
Occupations not specified.....	1,602,411

These last were doubtless mainly women and children. We presume it would be near the mark to estimate that one-third of the total arrivals were of persons traveling on business or transiently visiting us, and that the actual increase to our numbers by immigration during these thirteen years was just about 2,000,000.—*Tribune*.

New York Central Freight Engines.

A new freight locomotive has recently been built at the Company's shops at West Albany, under the direction of Mr. Charles T. Ham the efficient superintendent of Motive Power, which, it is stated, is to be followed by the construction of quite a large number of the same size and dimensions. The engine is numbered "13," and the general dimensions are as follows: Cylinders 18x22 in.; boiler 46 in dia.; flues 11 ft. long 2 in dia.; fire-box 65 in long. Total weight of engine thirty-two gross tons. It has six driving wheels connected, 4 ft. 10 in dia.; the Bissell truck, equalizing bar and other modern improvements. The *Buffalo Courier*, referring to this engine, says:—Instead of the ordinary force pumps the boiler is supplied with "Seller's Patent Water Ram"—an improvement on the ordinary injector—which will obviate all the difficulty and disarrangement of the pumps in winter. It works admirably, and is pronounced a great success. By the simple and peculiar arrangement of the valves, no power is lost, and the exhaust is free and easy, without useless draft in fire, thereby saving largely in fuel and in amount of heat, latent and sensible, usually carried off by the exhaust steam. The weight of the boiler is so equalized and distributed that the wheels have their full power of adhesion, and, when in full motion, the engine rides without jar and with wonderful ease. A great saving in the wear and tear of the machinery and rails is obtained over the ordinary locomotive. This engine speaks Power in its very looks and simple construction, and is finished in the most workmanlike and substantial manner, without any attempt at display, or needless expense for ornamentation. The building of this locomotive establishes an important fact,—that the proper distribution and equalization of the weight of an engine has more to do with its adhesive and effective force than an extra amount of tonnage. No 13 left for Albany yesterday morning with fifty loaded cars of stock, nearly double the number of cars usually drawn by one locomotive, or by engines of much greater weight.—*Am. Railway Times*.

Locomotive Performance.

The Chicago, Burlington and Quincy Railway have 138 locomotives running over 400 miles of track. The number of miles run for the year ending April 30, 1869, was as follows:

Passenger trains.....	828,220
Freight ".....	1,437,892
Miscellaneous.....	919,568

Total mileage of trains.....3,185,680

The average cost per mile run was as follows:

Repairs, cents.....	11 04
Oil and waste.....	.91
Fuel.....	10 83
Engineers, firemen and wipers.....	8 04

Total cost per mile run.....30.82

Miles run to one pint of oil.....16 14

" " " " cord of wood.....63 84

" " " " ton of coal.....42 16

One passenger engine run 40,330 miles during the year, averaging fifty miles to one ton of coal. For the month of May, 1869, the engines run 289,670 miles, and the average cost per mile run was distributed as follows:

Repairs, cents.....	10.42
Oil and waste.....	.82
Fuel.....	9.53
Engineers, firemen and wipers.....	7 92

Total cost per mile run.....28 69

Miles run to one pint of oil.....16.54

" " " " cord of wood.....27.05

" " " " ton of coal.....47 42

Wood is rated at \$6 per cord, and coal at \$4 per ton, loaded in tenders. Mr. C. F. Jauriet is the Superintendent of Machinery on this line.—*Am. Railway Times*.

The Central Railroad Company of Georgia contemplates the immediate extension of the Southwestern Railroad between Smithville and Albany, from Albany down to Newton, Baker County. When the surveyors shall have completed this work they will immediately proceed to Fort Gaines and survey for an extension of the Cathbert and Fort Gaines branch road, from the latter point to Abbeville, Henry County, Alabama. Both of these extensions are very nearly of the same length, about twenty-three miles, and both pass through very productive cotton regions. They are to be built at the earliest possible day.—*Am. R. R. Jour.*

There has been a number of changes of officers in the Pennsylvania Railway Company of late. In addition to the two former Vice Presidents, Thos. A. Scott and H. J. Lombaert, two more are added, Edmund Smith and George B. Roberts. Mr. Roberts is Vice President of the Pan Handle Company, Samuel G. Lewis, Jr., formerly Auditor, transferred to the new office of Controller, and Thomas B. Davis, an old employe, is made Auditor. Max Riebenbach is made Chief Clerk of Foreign Tickets. Theodore Stecher is made Chief Clerk in charge of the local ticket department.—*Am. Railway Times*.

Usually it is previous rubbing on the inside, by cleaning or otherwise, that breaks the glass tubes of water-gauges. The glass in strong, heavy tubes is in a state of great tension, and the least scratch on the inner surface soon causes a crack, and consequent rupture. Clean them with acids or alkalis, but never by friction, even not of comparatively soft substances.—*Am. Railway Times*.

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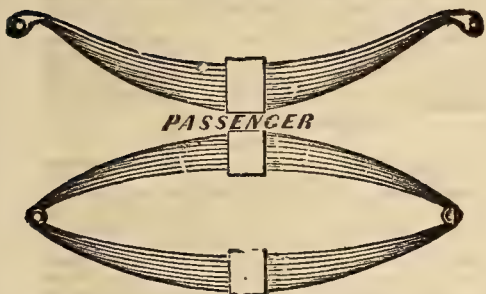
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Richmond & Chicago..	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Rich- mond..	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada..	6 00 P. M.	10 30 A. M.
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Leave ..	5 20 "	6 40 "	
Arrive ODIN..	9 35 "	10 30 "	
Leave ..	9 45 "	10 40 "	6 30 a.m.
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 Office, corner of Third and Vine; River Office, corner of Plum
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 and Pearl Streets. The splendid Passenger Depot of the
 I. & O. Railroad is about a mile nearer the business center
 of the city than the Depot of any other railroad, and with-
 in a few squares of the Postoffice and principal hotels and
 Steamboat landings.

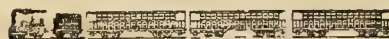
J. F. RICHARDSON, Superintendent.
 A. E. CLARK, General Ticket Agent.

Philadelphia, Wilmington & Baltimore**RAILROAD!****FOUR PASSENGER TRAINS DAILY**

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

1.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
 Express; 2.30 P. M.; 11.30 P. M. night.
 On Sundays, 4.30 A. M.; 11.30 P. M.
 Leave Baltimore for North and West 7.35 A. M.; 9.20
 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
 P. M. (Express)

SUNDAY TRAINS - Leave Philadelphia for Baltimor
 at 4.15 A. M. and 11.00 P. M. Leave al
 timore for Philadelphia at 8.25 P. M.
 Leave Philadelphia for Wilmington at 11.30 P. M. Leave
 Wilmington for Philadelphia at 8.30 P. M.

The Old And Reliable Route.

Through to Pittsburg without Change.

The PITTSBURG, FORT WAYNE & CHICAGO RAIL-
 ROAD, in connection with the Cincinnati, Hamilton &
 Dayton, and Little Miami Railroads, still continue to trans-
 port produce and merchandise between Cincinnati and
 Pittsburg, Philadelphia, Baltimore, New York or Boston,
 and all Eastern points with the greatest promptitude and
 dispatch.

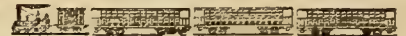
For Rates, Bills of Lading, or any information desired,
 shippers will please apply to

H. W. BROWN & CO.,
 No. 27 West Third Street, Cincinnati,

W. P. SHINN, General Freight Agent,
 Pittsburg, Pa.

CENTRAL RAILROAD

-OF-

NEW-JERSEY.

On and after Monday, May 21, 1866, three Express
 Trains will leave New York daily (Sundays excepted) via
 Central Railway of New Jersey, and Allentown, leaving
 Pier 15, foot of Liberty street, North River, at 7:00 and
 9:00 a. m. and 18:00 p. m. On Sundays, one Express Train
 at 8:00 p. m.

Passengers by this route save 60 to 130 miles, and Two
 Hours' Time over other Lines, with but one change a
 cars to Chicago or Cincinnati, and but two to St. Louis.
 Passengers front to East by Sound Boats or by Rail in the
 morning, will have time for Breakfast before leaving the
 City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives
 at Harrisburg 2 p. m., Pittsburg 12 night

9:00 a. m.—MORNING EXPRESS, for the West. This
 train leaves New York Two Hours later than other Lines,
 and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with
 Lehigh Valley Railway to Mauch Chunk; at Reading with
 Philadelphia & Reading Railway for Pottsville. arrives at
 Harrisburg at 8:30 p. m. Without change of cars from
 New York to Harrisburg.

8:00 p. m.—EVENING EXPRESS, for the West with
 but one change to Cincinnati or Chicago, and but two to
 St. Louis. This train leaves New York Two Hours later
 than other Lines, and arrives at principal places West at
 same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives
 at New York at 6:00 a. m. next day.

3:00 a. m.—EXPRESS TRAIN from the West, leaving
 Pittsburg at 4:20 p. m.; passes Harrisburg at 3:00 a. m.;
 Reading at 4:49 a. m.; Allentown at 6:00 a. m.; Easton at
 7:09 a. m. Through cars from Pittsburg to New York.

9:05 a. m.—FAST LINE, from the West, leaving Pitts-
 burg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Read-
 ing at 10:52 a. m.; Allentown at 12:22 p. m.; Easton at
 1:10 p. m. Through cars from Pittsburg to New York.

7:25 a. m.—WAY TRAIN, from Harrisburg, passing
 Reading at 10:40 a. m.; Allentown 12:20 p. m.; Easton
 at 1:35 p. m. Through cars from Harrisburg to New York.
 Arrives in New York at 5:20 p. m.

2:10 p. m.—FAST MAIL, from the West, leaving Pitts-
 burg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Read-
 ing at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at
 7:20 p. m. Through cars from Harrisburg to New York
 Arrives in New York at 10:45 p. m.

H. P. BALDWIN, General Ticket Agent.

BEST ROUTE TO**ST. LOUIS & CHICAGO.****Monday June 24.****INDIANAPOLIS & CINCINNATI****RAILROAD.****Three Through Trains Daily.**

	Leave.	Arrive
St. Louis & Chicago Ex..	7 00 A. M.	9 10 A. M.
Springfield & St. Joseph Ex..	12 00 P. M.	4 30 P. M.
St. Louis & Chicago Ex..	4 55 P. M.	12 15 A. M.

Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Ac- commodation..	5 15 P. M.	5 05 A. M.
Harrison Accommodation..	10 10 A. M.	2 25 P. M.

Through Tickets can be obtained at the Burnet House-
 Spencer House and Gibson House Offices; also at the
 Depot. The Passenger Depot of the Indianapolis & Cin-
 cinnati Railroad is within a few squares of all the pri-
 cipal hotels in the city.

J. F. RICHARDSON, Ass't Superintendent
 F. B. LORD General Ticket Agent.

The Railroad Record.

E. D. MANSFIELD, - - - - } Editors.
T. WRIGHTSON,
W. A. MUNSELL, Associate Editor.

CINCINNATI, - - THURSDAY, AUGUST 12, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
" " per month.....	5 00
" " six months.....	15 00
" " per annum.....	25 00
" column, single insertion.....	7 00
" " per month.....	14 00
" " six months.....	55 00
" " per annum.....	110 00
" page, single insertion.....	25 00
" " per month.....	32 00
" " six months.....	131 00
" " per annum.....	250 00

Cards not exceeding four lines, \$7 00 per annum.

WRIGHTSON & Co., Prop'rs.

The Chinese Question.

The great demand for labor in this country stimulates efforts to secure persons who can and will do something from all parts of the world. The great influx from Germany and Ireland this year is largely owing to the efforts of emigrant agents sent out by certain of the States, and by colonizing societies, but these almost invariably find settlement in the northern section of the country. The South is without attraction to these people, strange as it may seem, although every inducement is offered there that can be in the North.

The problem of settlement South promises to be solved by the importation of Chinese, who have for some years been testing their adaptability to our climate and government upon the Pacific coast. They have made the experiment sufficiently, it seems, to be themselves satisfied that their material prosperity is served here, hence they are seeking our shores in great numbers, and are finding their way by some great law that directs such matters, into that part of the country to which they are best adapted, and that most requires them.

That they are of value to the country, and will ultimately become so identified with it, as to command attention as a power in its management, we can not doubt. Their industry will create a demand for them—their docility will gain rights and privileges that might be denied a more exacting race, and their frugality will make them property holders; and from the evidences already had in California, some of them will rank among the opulent men of the country.

When they have attained this status there is no power now recognized by the United

States Government that can prevent their exercising important influences for weal or woe in our political affairs, should they overcome their present indifference to naturalization.

Already some of our speculative political managers are becoming alarmed, and propose all sorts of plans to prevent this growth of importance. But to do this, some arbitrary and un-American measure must be adopted, that may recoil upon its authors, or would prevent the immigration of the Celestials to our shores. This would not do, for the reasons already stated, viz: their labor is needed, and the South requires settlement, and no other immigrants go there.

The question, therefore, becomes vexed, not by reason of anything in the Chinese themselves, or what they may become, but by reason of the speculation of these wise-acres who are always alarmed at an advanced movement in civilization, and who argue to conclusions that never arrive, and predict consequences that time gives the lie to.

We recollect when certain alarmists saw nothing but ruin to the country by the immense immigration of Germans—they predicted that the Government would be managed by "the Dutch" to its great injury. A considerable excitement occurred some years since in a Northern State, because of a large settlement of Norwegians. Speeches were made, articles written, and silly resolves passed upon this "detestable importation." The same has been said of the Irish immigration, and fears have been excited that such large settlements from England would taint our political atmosphere with the effete principles of monarchy. Indeed, to such an extent did this feeling go, that at one time we heard the cry of "America for Americans"—"Down with foreigners," and such like denunciations, from men and parties, who now deny their complicity with such movements, or attempt to apologize for it in one lame way or another.

Time, however, has proven all these fears groundless and all these predictions false. These foreigners become transmogrified to Americans as rapidly as they became acclimated, and we find that in a few years they advocate and fight for American principles, and American interests as enthusiastically as the native born.

May we not learn something from this, and rather direct and control this Chinese movement than condemn it? Is not the "letting alone" process—the regulation, under the law of supply and demand, the fitness of the man to the place, his government by laws the same as govern us, the true solution of the question? We think it is.

If the Chinaman is wanted he will come to the extent of such demand. If he is ignorant this, of all other countries is the one to educate him, and that he can learn, and is better intelligent than ignorant, no one, we believe, denies. If he is industrious, and frugal, and prosperous, are not these qualities to be com-

mended, and that entitle him to all the rights given to any man upon this continent? And, if he is criminal, why should he be punished by other more severe laws, that are like offenses against any citizen? If he is not wanted, and can not or will not do something valuable and good, and is not frugal, and can not advance with the age, and persists in being criminal, there are general laws, that prevent him from attaining the position so dreaded by these anti-celestial croakers, and that will soon seal his fate forever upon this continent.

This is an epoch of labor, and this the country of all the world that demands work from every man, and of every kind. The Chinese have thus far pressed their way forward among us. The experiment of his capability to do and be among us is successful, and he will continue to come, each year, in greater numbers, and with better results, as those who are here assimilate with us, and can instruct their newly arrived countrymen.

That this fact is recognized, even by those who have opposed their coming, and who would cripple their efforts when here, is evident, from the fact that certain speculators are importing these ignorant inoffensive men and women under contracts that secure their labor for years, for a miserable living, and that impair his usefulness to himself, and to the country of his adoption. All the consequences of ill directed avarice fall upon this poor laborer, and all the crimes that was charged against the African slave trade, are being reenacted in his case. To such an extent did this Coolie system prevail that Congress, in 1862, passed an act forbidding contracts of this kind.

One KOOPMANSCHAP, a Hollander, is the leading spirit in the new movement to turn the tide of Chinese movement to the South, and his views were expressed before the Memphis Convention, and met with great favor. The Negroes, however, have caught the alarm, and express themselves strenuously against these proposed co-laborers in the cotton and tobacco fields. It will be a repetition of the old feud between the Irish and the Negroes, and will be settled in the same way.

The South is the most nearly concerned in the proposed movement, and as they seem satisfied to try the experiment, we should be satisfied to let them.

AIR LINE RAILROAD.—A large and influential meeting of the citizens of Hart County, Georgia, was held at Hartwell on Friday last, with a view of obtaining subscriptions to this enterprise. Addressee were made by Messrs. W. F. Bowers and F. B. Hodges, of Hart, and Gen. J. W. Harrison, of this place. Considerable enthusiasm was evinced, and county and individual subscriptions will be made to the extent of at least \$100,000.

—The United States Government is said to have issued to the Pacific Railroad \$257,474,081.

Gen. Fremont's Railroad.

We confess to some surprise in seeing the following as editorial in *The N. Y. Times*:

"The atmosphere of Paris does not seem favorable to Gen. Fremont's last great project. He and his financiering are both coming to grief. Deterred neither by the refusal of Congress to furnish a subsidy nor by its refusal to grant a right of way, he repaired to France and threw himself upon the tender mercies of its capitalists. A grand Transcontinental Railway appeared—upon paper. A company was announced to promote its construction, and a prospectus appeared full of rich and gorgeous promises. Mariposa in all its glory never excelled the picture spread before the eyes of Parisian capitalists. There were to be '210 millions of francs, in shares of 125 francs,' first mortgage bonds based upon a munificent land-grant, and, above all, the construction bonds were to enjoy from the Federal Government a guarantee of six per cent. interest. The last promise was unfortunate. It was specific, and admitted of a test. Mr. Washburne was applied to for information, and he referred to the State Department; and the State Department remorselessly replied that the United States have granted no subsidy or aid in any shape to the imaginary Transcontinental Railway. Polite Parisian critics thereupon pronounced the project a fraud and the prospectus a tissue of falsehoods."

Comments by *The Tribune*:—"Congress never refused a subsidy to Gen. Fremont's Southern Pacific Railroad, for he never sought one. His enterprise was based on a conviction that the road could be built *without* a subsidy, and his effort to prove it commanded our earnest and active sympathy. We want more Pacific Railroads, but no more National Debt, whether absolute or contingent."

"Nor is it true that Congress refused Gen. Fremont's company the right of way. The House granted that right, promptly, heartily, and by an overwhelming majority. The bill thus passed went to the Senate, where it would have been likewise passed, but the Chairman of the Pacific Railroad Committee got it referred to his Committee and there held it, in spite of all entreaties and remonstrances, in defiance of justice and fairness, thus denying to the Senate an opportunity to pass on the bill. We can imagine no reason for this course that would be creditable to its author."

"Most certainly, if any one has represented that the Government has guaranteed the bonds of this company, he has said what was not true; but we trust *The Times* needs no assurance that Gen. Fremont never made or authorized any such representation. If it was ever made, it was before his arrival in Paris, and was probably the result of misapprehension."

"Mr. Washburne, our Minister at Paris, was never a friend of Gen. Fremont; but as he is perfectly familiar with what *did* transpire in Congress, we can not believe that he ever gave the matter the complexion which it wears in the version of *The Times*."

The scheme of GEN. FREMONT, undoubtedly covers the route for a Pacific Railroad, having the best grades, and the only one totally free from snows; within the limits of the United States; with a trade of its own distinct from all others. The State of Texas furnishes a land grant and cash aid that is sufficient to warrant the construction of the road through Texas to El Paso, mostly through a good

country, and easy of construction. The property to be improved belongs to the State of Texas, hence she can afford to aid in its improvement and development, as it will attract immigration and increase her productive capacity and taxable resources. This is what the State of Texas needs more than all else besides. The lands she has, and unless they are made accessible, they are worthless. Giving away a few acres to bring the balance into market will not impoverish her in the least; and as for the cash aid of a specific sum per mile, it is well known that Texas has a large fund obtained or obtainable from the United States on account of old claims adjusted when Texas was admitted into the Union.

Beyond El Paso, GEN. FREMONT asked from Congress only the right of way through the public domain, no subsidy, and no guarantee of bonds. The bill making the grant did pass the House of Representatives, but was not reported to the Senate for action by the Committee of Pacific Railroads. No one will doubt but that GEN. FREMONT can get the right of way through the public lands to the Pacific ocean.

Of the real merits of the controversy between GEN. FREMONT and MINISTER WASHBURNE the public will probably know more upon the arrival of GEN. FREMONT from Europe. We understand from a private correspondent, that he will be home in about a week, and that "the contractors have received assurances of such a character as guarantees the prompt progress of the road." So mote it be.

Since the above was in type, we have clipped the following from the *Louisville Courier Journal*, which certainly furnishes a more satisfactory view of the prospects of the enterprise:

OFFICIAL.—From the office of the Memphis and El Paso Pacific road the information is given that three corps of engineers are in the field; and one thousand men are at work upon the road. The attempt of various parties in the interest of hostile corporations to damage the credit of the company in France has signally failed, and they have nothing on hand to console themselves with but their own malignity.

The company has plenty of money and materials, and will have plenty more.

✶ The *Paris Citizen*, in announcing the success of the proposition to subscribe to the railroad from Maysville to Paris, says:

"The result of yesterday's work has secured the completion of the road to Maysville. It does more: it opens to Louisville a cheap and practicable route, via Frankfort and Georgetown to Maysville, to the Big Sandy and the Atlantic cities. Such a connection could be made for one half, possibly one-third of the cost of a road by any other route."

—There is a rumor afloat that Stewart is about buying the South Side Railroad, and that he intends—if he does buy it—running a branch line to Hempstead.

The Northern Pacific Railroad Engineer Corps.

[From the Cincinnati Gazette.]

OLYMPIA, WASHINGTON TER., JULY 23

The Northern Pacific Railroad Engineer Corps visited us some two weeks ago. Mr. Canfield the agent of the company, and Mr. Moorhead, of the firm of Jay Cooke & Co., were with them. They spent a few days on Puget Sound, examining its harbors, anchorage and resources, and started across the continent by the contemplated Northern Railroad route to examine and report on its practicability. It will take them some two months to make this exploration and survey to the head waters of the Missouri river, where they expect to meet another corps of engineers who started from Lake Superior about the same time.

This looks some like business on the part of the company, and revives the hopes of the people of this Territory, who have long been promised a road by this route, placing them in direct communication with the East.

It is claimed that the Northern route has many advantages over all other routes across the continent; that it is much shorter, has less mountainous country to cross, has less depth of snow to contend with than the Central Pacific, and that the country through which it passes is much more fertile, and better timbered, than any other. The distance from Puget Sound to Lake Superior is only 1,750 miles, making a complete line of communication across the continent with this distance of railroad, the remainder of the line being by Puget Sound, and the Northern lakes. As water transportation is so much cheaper than by rail, it would give this route a great advantage over all other direct routes from coast to coast. This road would open up an immense country, which is now almost lost to the nation; rich in soil, minerals and timber, and capable of maintaining its millions of inhabitants.

May the day not be far distant when this road will not only be commenced, but constructed; giving homes along its line to millions of our industrious people.

The same correspondent adds, that Secretary W. H. Seward, called to see Puget Sound this week, on his way to Alaska, his son Frederick and his lady accompanying the old gentleman. The North Pacific Transportation Company, have placed a steamer at their command, on which they are leisurely making the trip.

Mr. Seward made a short speech to the citizens of Olympia, in which he said that as Alaska was ours, it required no prophetic eye to see that the British possessions intervening between Alaska and us, would soon be ours also.

This expression was received with unlimited approbation by all who heard him.

✶ The manufactures of California are estimated at thirty millions of dollars per annum, and they comprise woolen and cotton factories, iron mills, tanneries, boiler works, brass foundries, saw mills, powder mills, paper mills, and almost every kind of manufacturing operations which can be found in our oldest States. With an abundance of all the necessities of life to sustain a teeming population, a healthful and invigorating climate, extended and extending means of communication and inter-communication, California surely has a most brilliant future.

Mississippi and Lake Superior Railroad.**Railway Progress.**

[From the N. Y. Evening Post]

The *Winona Republican*, June 2, says: "Before the close of 1870 it is expected that the whole road (150 miles) will be open. The company advertise for 3,000 laborers. The entire money required for building and equipping the road has been raised. The bonds of the company went off like hot cakes, \$4,500,000 worth being taken in ten days. Duluth, the point fixed upon as the grand gateway, is rapidly improving. The first boat from Buffalo brought 700 passengers. By the construction of a breakwater at small cost, an outer harbor may be gained. This improvement, together with the cutting of a canal 600 feet long, by 150 or 200 feet wide, will give Duluth enviable advantages as a shipping point."

This city (Duluth) will be, when the Northern Pacific Railroad is completed, within five days of Puget's Sound, twenty days of Canton, China, and fifteen days of Liverpool. To it will flow (for being at the top of the water system of the lakes, it can have no rival beyond it to the Pacific Ocean) the trade and products of a country so vast that its aggregate will almost defy calculation. New York, Philadelphia, Boston, St. Louis, Chicago and nearly all our great American cities struggled for and undersold each other in meeting the trade wants of the 40,000,000 of people now occupying the settled portion of the continent. But as large a population as this will some day occupy a region of country whose gateway for its products to the markets of the world will be at the head of Lake Superior. This vast region of country, whose sole water outlet and commercial current is over and through the great lakes, comprises Dakota, Montana, Idaho, Wyoming, Washington and Oregon, in the United States, and Assinaboine and Saskatchewan in the British Possessions, giving an area of 20,000,000 square miles, a large portion of which is equal to any on the American continent for the production of bread-stuffs; and with the extension of the railroads now in operation in the State of Minnesota, and the building of the Northern Pacific, there is no good reason to doubt that in the next 25 years this region of country will contain a population of 20,000,000 of people, who will produce for export, at a low estimate, 800,000,000 bushels of wheat, and a proportionate amount of other cereals, beside developing an immense manufacturing and mining interest, whose value can hardly be over-estimated.—*Detroit Advertiser*.

ANOTHER PAVEMENT.—We understand that a new kind of street pavement has been devised, which, it is said, promises to be an improvement upon any of those now in use. It belongs to what may be called the *Asphaltum* class. It is composed of a substance called carbo-Japanis and sand. The carbo-Japanis is made from common coal-tar by the addition of certain chemicals, and forms a very hard, solid, and inodorous cement, which is affected but little, if any, by changes of temperature. It is claimed also that it can be laid, with a good foundation of coarse gravel, carbo, and tar, for thirty cents per square foot; and on sidewalks for twenty cents, thus making it cost about the same as that of the Fisk pavement, while it is at the same time more durable. A composition, an improvement on which is here called carbo-Japanis, has been used for some years in Sweden, where it is said to have given satisfaction.—*Mining Journal*.

The Progress of railroads in this country is no doubt greater at this time than at any other period. Their growth since the year 1831, when the first road for passengers was opened, is here given:

Year.	Miles.
1831.....	23
1836.....	1,273
1840.....	2,818
1845.....	4,633
1850.....	9,020
1855.....	18,374
1860.....	30,630
1865.....	35,080
1867.....	39,270
1868.....	42,250

In the year 1869 the aggregate number of miles of railroad in active operation much exceeds 43,000.

Pennsylvania is at present the "banner" State as to railroads, having 4,400 miles in operation; Illinois is next. New York and Ohio have nearly the same number of miles. The States having each 1,000 miles of railroad are these:

	Miles.
Pennsylvania.....	4,400
Illinois.....	3,450
Ohio.....	3,400
New York.....	3,400
Indiana.....	2,600
Iowa.....	1,550
Georgia.....	1,580
Massachusetts.....	1,450
Missouri.....	1,400
Virginia.....	1,480
Tennessee.....	1,440
Wisconsin.....	1,250
Michigan.....	1,200
North Carolina.....	1,100
South Carolina.....	1,090

There are just now a great many lines building in the State of New York, which will, in a short time, give it the greatest number of miles in use of all the States.

The immense importance of the railroad interest of the country may be seen by comparing the amount of capital invested in them and in the banks:

Banks, Nat'l, 1,630; cap'l, 1869	\$436,000,000
Banks, State, 240.....	67,000,000

Total, United States..... \$493,000,000
Railroads, 43,000 miles in operation in the United States, cost \$1,870,000,000

The earnings of the banks in one year may be estimated at ten or twelve per cent. on their capital, or from \$50,000,000 to \$60,000,000.

The earnings of the railroads in New York alone were, last year, \$49,661,000; and in the whole United States last year they were \$400,000,000, viz:

From freight.....	\$280,000,000
From passengers.....	120,000,000

This sum exceeds largely the gross yearly revenue of the general Government. The vast importance of the railroads to the country at large, and to our own State in particular, will not probably be overestimated. We know, from official data that the railroads and canals of this State earned, last year, over \$1,800,000,000 of property in value. The Erie and the Central Railroads, carried over one-fourth of this vast tonnage in the form of agricultural and other products, be-

tween the Eastern and Western States. The values of freight carried by canal and railroad in 1867 were:

By canals, value.....	\$279,000,000
By railroad, value.....	1,445,000,000

Totals one year.....\$1,724,000,000

BURLINGTON, CEDAR RAPIDS AND MINNESOTA RAILROAD.—The *Burlington Hawkeye*, of the 16th, says: "The first tie on this road was laid on the levee on Monday, by John H. Gear, Esq., and their will be to-day seventy-five men engaged. The first shipment of iron has reached Chicago, and is expected here about the middle of this week. Everything is in readiness and a sufficient force on hand to put down from a mile to a mile and a half per day. The road bed of the Burlington, Cedar Rapids and Minnesota Railroad is graded from Burlington to Wapello, in Louisa county. From that point to the Iowa river the grading is about half done; thence to West Branch, Cedar county, about seven-tenths of the grading is completed. Throughout the distance of twenty-one miles from Burlington the piles are driven and capped for each bridge and culvert. Five thousand tons of the best T rail have been purchased already, and three thousand more are contracted for. Two thousand seven hundred and thirty-five tons have been delivered at Burlington. The capital stock has all been subscribed, and the bonds of the company which were negotiated in the purchase of the iron above mentioned find ready sale in New York at ninety-six cents on the dollar. The New York agent of the company telegraphs assurance of continued financial backing, and says 'Go on with your road.' And 'Go ahead' is the word along the line, so that by the first day of November next the cars will be running from Burlington to West Liberty, only thirty-nine miles west of Davenport."

Taxable Value of Ohio Railroads.

The following are the valuations as fixed by the State Board of Equalization on railroad property owned within this State:

	Additions to returns by Local Boards.	Deductions.	Val. fix'd by State Board.
Atlantic & Great Western.....	\$180,243	.....	\$3,785,116
Cleveland & Mahoning.....	.....	.....	1,607,078
Central Ohio.....	.....	.....	1,662,500
Cleveland, Col. Cin. & Ind	.....	.....	4,994,723
Springfield Branch.....	.....	.....	312,187
Columbus, Chicago & Ind	.....	.....	.....
Central.....	68,581	.....	1,440,206
Cleveland & Pittsburgh.....	.....	.....	4,014,124
Cleveland, Zanesville & Cin	.....	.....	338,321
Cin., Richmond & Chicago	23,305	.....	209,745
Cin. & Indianapolis Junction	.....	.....	109,363
Cin., Hamilton & Dayton.....	118,692	.....	2,255,166
Cincinnati & Zanesville.....	.....	.....	800,000
Cin., Sandusky & Cleve'd.....	.....	.....	967,184
Dayton & Union.....	20,933	.....	188,442
Dayton & Michigan.....	127,164	.....	1,147,184
Lawrence.....	.....	.....	105,910
Lake Shore.....	.....	.....	7,133,331
Lake Erie & Louisville.....	.....	.....	77,679
New Lisbon.....	.....	.....	62,400
Pitts. Fr. Wayne & Chicago	591,476	.....	6,502,832
Cincinnati & St. Louis.....	203,652	.....	2,240,174
Sandusky, Mans'd & New'k	.....	.....	800,355
Salineville Branch.....	.....	.....	12,000
Springfield & Columbus.....	.....	.....	24,000
Cin. & Ind. and Indianapolis, Cin. & Lafayette.....	.....	.....	965,510
Toledo, Wabash & West'n.....	.....	.....	598,313
Michigan Southern & Northern Indiana.....	.....	.....	921,080
Col. & Hocking Valley.....	234,200	.....	372,360
Iron.....	.....	.....	80,253
Little Miami, Columbus & Xenia, Xenia & Dayton & Dayton & Western.....	.....	.....	3,803,215
Ohio & Mississippi.....	.....	.....	584,112
Marietta & Cincinnati.....	514,884	.....	2,059,540

Totals.....\$1,278,442 \$805,283 \$49,011,387

The River Commerce of the West.

Notwithstanding all the formidable power the great trunk lines of railway between the East and the West the river commerce of the Valley of the Mississippi is rapidly recovering the importance it formerly possessed, as will be seen by the subjoined statement of it, copied from official tables:

Custom houses.	No steamers.	Registered tonnage.	Capacity in tons.	Value in dollars.
Cincinnati.....	150	30,497 16	42,933	\$4,134 00
Dubuque.....	20	3,204 37	5,137	459 50
Evansville.....	25	3,443 51	5,019	402 60
Galena.....	20	2,297 77	3,005	435 00
Keokuk.....	15	1,173 86	2,192	178 50
Louisville.....	66	14,100 64	25,425	1,994 50
Memphis.....	60	9,849 62	15,121	1,011 20
Nashville.....	12	1,183 66	2,156	108 00
New Orleans.....	80	15,960 07	21,625	1,292 00
Paducah.....	10	2,130 80	2,893	265 00
Pittsburg.....	159	33,598 00	42,071	3,920 80
St. Paul.....	30	3,068 52	4,973	607 50
St. Louis.....	210	86,532 34	110,769	8,830 00
Wheeling.....	44	9,538 11	8,075	918 00
Total.....	910	216,067 83	292,174	\$24,554 60

Shallow as the Ohio is it will be perceived that the cities which chiefly represent it are still the leaders of the navigation movements of the West. Pittsburg at the head of the river, Cincinnati in the center, and Cairo at its mouth are the principal Depots now as they ever have been; but if we add to these the returns for Wheeling, Louisville and Evansville, the aggregate will eclipse all others. The tonnage of the lakes and rivers foot up at \$1,099,714, while that of the seaboard is 2,857,800; so that the interior is still far in the rear. No doubt it would be less so had not its navigation interests been very seriously injured by the civil war and the formidable competition of the railways. But the restoration of peace enables the rapidly increasing population and trade of the interior to furnish employment for both the railways and the navigation lines. The chain of river cities extending from St. Louis to Pittsburg, formerly entirely dependent on the river trade, has of late years become absorbed in railway movements; so that the decadence of the navigation interests has not been so seriously felt. But the boat-builders of the West have revived the enterprise of the rivers, and the competition is again becoming lively and flourishing. None of the western ports are yet provided with proper facilities for dockage. Indeed, such a thing does not appear to be dreamed of there as possible, notwithstanding the fact that civil engineers have repeatedly proposed to construct store reservoirs to feed the Ohio. Inclosed docks at cities like Pittsburg would operate upon those ports precisely like store reservoirs, and keep the harbor always in a good stage of water.—Philadelphia Press.

The Montgomery (Alabama) Advertiser learns that a contract has been made for the South and North road, with Rapul, Sons & Wadley's car works, at Independence, Louisiana, which, it says, is perhaps the largest ever made in the South. The stock consists of 200 box cars, 100 flat cars, ten second-class passenger cars, ten mail and baggage cars, ten crank and thirty pole cars.

A "Shovel Brigade" has been organized in Des Moines, for the purpose of aiding in grading on the Des Moines, Indianola and Missouri Railroad. Each member pledges two weeks' work, to be done sometime during the month of September, 1869.

Steel.—The Bessemer and the Heaton Process.

The stone age only exists in men's minds as dim mythological speculation; that which succeeded it, the bronze age, has by the light of archaeological science been made more palpable, and its epoch more definitely fixed; but the iron age is one of modern date, its history is known, the facts connected with it have been carefully registered and widely disseminated, and the benefits it has conferred on mankind duly appreciated; but it, in its turn, is destined to be superseded by another, which has even now commenced, and is making rapid strides, and which has a still greater future before it in placing in the hands of man a material superior to all others previously known, for the purpose of turning to his advantage the hidden wealth and powers of nature.

Not twenty years ago steel was an *article de luxe* and was only employed when absolutely needed, its more general application being precluded by its great cost, its use was therefore limited principally to the various descriptions of cutting tools, springs, wire, and certain parts of machinery where hardness and durability were of greater importance than first cost, but the last ten years has witnessed a wondrous change in the state of things, for steel is now stealthily but surely encroaching on the domain of wrought iron; and it has already usurped its place in many of its most important applications. This result has been mainly brought about by the Bessemer process, by which steel can be produced in large homogeneous masses at a cost not more than that of some of the high class brands of wrought iron. The Bessemer process is, however, limited in its application, for it requires a very pure iron to make a good quality of steel, and thus the only iron in this country that has as yet proved suited to it is that made from the hematite ores of Cumberland, these being free from those deleterious ingredients, sulphur and phosphorus, the presence of which in any quantity are fatal to steel, and which the Bessemer process as at present carried out fails to eliminate.

It does not, however, follow that because this difficulty has not yet been surmounted it never will be, but until it is, the Bessemer process, great as is the revolution it has brought about, can never become universal. It is therefore with satisfaction that we call attention to another process, the invention of Mr. Heaton, which professes to deal with the commonest descriptions of iron, and to make from them an excellent quality of steel. Before comparing these two processes, it will be well to glance at the question generally, and to inquire what really constitutes good steel, and in what it differs from iron in its cast and wrought state.

Iron is an elementary substance, but it is never met with in a pure state in commerce, although the Swedish irons, and some of the higher brands of English make, are nearly so. Steel is an alloy of iron and carbon, in which the proportion of carbon varies from .5 to 2 per cent., its chief distinctive feature being that when heated and quenched in water its hardness is increased to an extraordinary degree, and in proportion to the amount of carbon it contains. Steel iron may be considered iron combined with less than .5 per cent. of carbon, which increases its tenacity and toughness, but without imparting to it the quality of hardening when cooled in water. Cast iron is an alloy of iron and carbon, in which the proportion of carbon amounts from

2 to about 5 per cent., the larger part of which is chemically and the rest mechanically combined.

Iron is of such a refractory nature that it can not be melted by any ordinary process, but it can be forged and rolled, and any number of pieces may be welded together by bringing them to a white heat. Steel and steel iron can be melted at a high temperature, the higher the less carbon it contains, and when cast into an ingot it can afterwards be drawn out or rolled the same as iron. Cast iron can be melted at a less heat and cast into any form required, but it can not afterwards be forged or rolled, but crumbles to pieces under the hammer at any heat. It will thus be seen that steel and steel iron combine the two distinctive characteristics of both cast and wrought iron. Steel is capable of being fused and cast into a homogeneous mass to any required form, and after that is done it will admit of being hammered, rolled, drawn or otherwise wrought like malleable iron, by which its toughness, density and tenacity are greatly increased. It is the possession of these two valuable qualities combined, more than its greater actual strength, that will ultimately cause it to occupy the place of wrought iron. The importance of ensuring perfect soundness and homogeneity in large forgings can not be over-estimated. How often the safety of a vessel depends on the strength of an engine-shaft or the soundness of an anchor. What fearful accidents sometimes occur from the failure of a crank-shaft of a locomotive or the snapping of a tyre, and yet until the introduction of mild steel, wrought iron was the only material applicable for these purposes; and when it is remembered that every forging, however great its size, is made up of a number of pieces, originally not more than perhaps eighty pounds each, which are united together by welding, and that in performing this operation a large proportion of the welds must be imperfect from dirt, scale, rust, and other impurities which eat the surfaces, and prevent a perfect union of the metal, and it is easy to understand what a great desideratum a process is which enables the metal to be cast into a solid homogeneous mass free from flaws, bad welds, and other imperfections, at anything like a moderate cost.

In the manufacture of steel in the ordinary way the raw ore is first made into cast iron, which is puddled and made into wrought iron bars about 3 in. x 3. These are converted into steel by cementing in a close furnace with charcoal, from which they absorb the requisite carbon. They are then melted in crucibles and cast into ingots. Here we have a complicated and round-about process. The iron in the ore is first impregnated with carbon to excess in the blast furnace, then robbed of it in the puddling furnace, and then impregnated again with a less quantity in the converting furnace; but the steel made by this process is of such a superior quality that for the higher classes of uses, where quality is of more importance than cost, neither the Bessemer, nor other process for making steel direct from pig iron, is for the present at least likely to supersede it.

The Bessemer process, as is well known, consists in blowing air into molten cast iron contained in a vessel termed the converter, the oxygen of the air coming in contact with the carbon in iron, combustion ensues and the carbon is burnt out; a small quantity of spiegeleisen is then added to give the exact dose of carbon requisite to produce the quality of steel desired. Now it is found that if the iron operated upon contains impurities such

as phosphorus, sulphur, and silicon, that they are not removed by this process so that only the high-class irons can be employed, which are of course expensive. Nevertheless, the process is so economical that good Bessemer steel rails can be sold at a price only about 50 per cent. more than that of ordinary iron rails. Mr. Heaton professes that by his process the common qualities of iron may be employed, and that he can consequently produce good steel at a less price than can be made by the Bessemer process. Mr. Heaton effects the conversion of cast iron into steel by means of nitrate of soda, about 2 cwt. of which for each ton of steel to be made, is placed in the bottom of the converting vessel and covered with a perforated cast iron plate. The molten cast iron is then run into the converter. Its heat decomposes the nitrate and sets free its oxygen, which combines with and burns the carbon out of the iron, while the soda, we presume, effects the same object with regard to the sulphur, phosphorus and other impurities; the result being a steel of good quality from iron unsuited for the Bessemer or any other known process for making steel direct from cast iron.

The question, then, as to the comparative cost of production between the two processes turns upon this—as regards the materials employed, which costs less, the high-priced iron used in the Bessemer process, or the lower-priced iron, plus the nitrate of soda used by the Heaton process? Upon this point the two inventors disagree. Mr. Bessemer states that he can make good steel from iron costing 65s. to 70s. per ton, but Mr. Heaton doubts his being able to obtain it under 80s. He, however, takes the price at 70s., to which he adds 8s. for the dose of spiegeleisen, and 5s. for the air (we presume he means the cost of forcing it into the converter) making in all 83s., while the cost of the iron required for his process he gives at 42s., plus 24s. for the nitrate, together 66s. Mr. Bessemer admits a waste of 12½ per cent., though Mr. Heaton asserts that 17½ is the lowest percentage yet attained. What the waste is by the Heaton process does not, however, appear in the papers before us, so that no comparison can be instituted on this point. It would not, we should think, be less than by the Bessemer process. Taking it as the same, the cost of the materials employed would show a considerable advantage in favor of the Heaton process. There is a point, however, in reference to the cost of production by the Bessemer process which must not be lost sight of, and that is the royalty of £2 per ton charged, we believe, by Mr. Bessemer, and which of course increases the price of steel made by his process by this amount, but in less than a year Mr. Bessemer's two first patents, containing the gist of his invention, will expire, and any one will be at liberty to make steel by blowing air through molten cast iron without paying any royalty at all. The question will then be, will the greater economy of the Heaton process, carrying a royalty, enable it to compete with the Bessemer process when relieved of royalty, and under the circumstances of an increased development, consequent on this very circumstance and the keener competition resulting therefrom?

On the question of the first cost of plant necessary to carry out the operation, Mr. Heaton takes credit for his process, showing a considerable saving over that of Mr. Bessemer's, but in this we think his statements are open to criticism. Undoubtedly the plant usually employed by Mr. Bessemer's licensees is much more costly than that at present in use at

Langley Mills, but then a considerable part of this is for the purpose of manipulating the steel after it has been made, and the object is to save manual labor in carrying out the various subsequent operations, and should be charged to that portion of the process; if we regard the two processes simply up to the point of producing the steel in the converter, there would hardly be any important difference with the exception of the blowing engine necessary under the Bessemer process, the cost of which will be but a very small percentage on the steel made in a year.

The next question is as to the respective qualities of the steel produced. There are three points which indicate quality in steel or iron, the ultimate tensile strength, its elasticity shown by the strain it will bear without exceeding the elastic limit, and its ductility shown by the amount it will stretch before breaking. Mr. Kirkaldy's report gives the average strength of the Heaton steel iron as under—23 tons per square inch with an extension at rupture of 21 per cent. Mr. Heaton professes for it the qualities of the Lowmoor and Bowling irons, but in this he overestimates it, as these and the Farnly iron have a breaking strain on the average of full 26 tons per square inch, with an ultimate elongation of 24 to 25 per cent., while plenty of the good ordinary brands of Staffordshire and Scotch irons have a breaking strain of 24 tons, and elongate 20 to 22 per cent. The cast steel gives a higher result as regards the breaking strain, but it is very deficient in extensibility. We should look for something like 12 to 15 per cent. with a breaking strain of 40 tons, but we prefer a tensile strength of about 30 to 35 tons, with an extension of 20 to 25 per cent., which is very commonly obtained with good Bessemer steel. Every allowance ought, however, to be made for Mr. Heaton's process being in its infancy. It would be unreasonable to expect that in such a difficult art as steel-making he should arrive at a perfectly satisfactory result with his present limited experience; and if he has only accomplished making steel free from sulphur and phosphorus, from the ordinary Cleveland and similar ores, he has achieved a most important object, and he will no doubt be able in time to improve the quality of his steel either by a judicious blending of irons or some other means which practice will suggest.—*Heraph's Journal*.

The Utilization of Small Coal.

Of late years the question of utilizing the vast accumulations both under and above ground of small coal has engaged the earnest attention of colliery proprietors, and the many plans and inventions propounded for solving the problem have received a large amount of attention from those interested in the coal trade. In every colliery district in the kingdom, more especially the older ones, the quantity of small coal on the surface, lying not only useless, but in many cases a positive obstruction, which is desirable to remove, is something enormous, and probably quite as large a quantity has been left underground as worthless rubbish.

Some coal can not be worked without making a large percentage of small, and where that is the case the colliery proprietor suffers a serious drawback from his profits, in consequence of the difficulty experienced in obtaining a market for his small coal; and if the market is found, the price is ridiculously low. Of the inventions proposed for utilizing the small none seem to have been established as

a success excepting Baker's process, which, after many vicissitudes, is now declared to have completely accomplished the object in view. This process first was tried in the neighborhood of London, afterwards at Aberaman, and other places, and the patent right was finally purchased by the Compressed Coal Company, a private concern, comprising several wealthy Gloucestershire capitalists. They established works at Whitecroft, in the Forest of Dean, and for some time past have been incurring a large expenditure in bringing the process to that state of perfection which enables them to announce its commercial success.

From the first introduction of the patent no doubt was entertained but that it developed the right principles; but difficulties arose in carrying out the details, more particularly in reference to the machinery. The Uxside Company, of Newport, Monmouthshire, were entrusted with the manufacture of the machines, and although at the commencement only partial success was attained, experience enabled the engineers to overcome the difficulties that presented themselves, and to turn out a machine which is in every respect a success, gives unqualified satisfaction, produces blocks of any size, and eliminates every thing that is objectional in the fuel. What is particularly gratifying, too, is the fact that the fuel sells at a handsome profit, and the demand is at present far in excess of the supply. The Compressed Coal Company must be congratulated on the success of their patient and well merited efforts, for had not the inventive genius of the patentee been supplemented by their capital and perseverance, and by the skill and experience of the manufacturers of the machine, it is not improbable that, like many other valuable inventions, it would have been allowed to drop into obscurity until its value was more generally appreciated.

It may be added that the process is likely to be extensively adopted at the coaling stations, both at home and abroad, where a large amount of small is made, which, instead of being a loss to consumers, as is now the case, will then be turned into profitable account.

A Gloucestershire paper, in its report of a meeting of the Forest of Dean mining proprietors, held at the Severn Bank Hotel, Newnham, makes the following reference to the fuel:

"We noticed one fact of great public interest at the hotel on Tuesday. At either end of the room in which the meeting was held there was burning a brilliant fire, making little or no ash, and fed by what appeared to be square bricks of coal. We learnt that this was the first public trial of a commodity supplied by the Compressed Coal Company, which has lately established its works, at Whitecroft, Lydney. The waste coal, that heretofore has been sold by thousands of tons at 1s. per ton, is now by a patent process compressed into small blocks. These last longer than the ordinary lumps. They are excessively clean in using, and 1½ ton of them may be packed into a space which would suffice for only 1 ton of the large coal. We hear and can believe that the company is likely to drive an extensive trade."

The fuel is well suited for steam boilers, as well as for domestic use.—*English paper*.

—Extensive coal mines, it is reported, have been discovered on the eastern shores of the Caspian Sea, by the scientific exploring parties sent out by the Russian Government.

Economizing Fuel in Blast Furnaces.

The London *Mining Journal*, of June 12th says that after standing for more than six months for alterations, and the putting down of new machinery, the Wingerworth Furnaces, near Chesterfield, are once more at work. Their appearance, however, is very different to what it was before the improvements to which we are about to allude took place. The old furnaces gave out the usual smoke and flame from the top, but at present, on passing, it is difficult to say whether they are in blast or not, so free are they from the usual indications one looks for. This result has been attained by taking the gas from the top, and utilizing it in a simple yet efficient manner. To effect this object new boilers, heating ovens and gas apparatus have been put down at considerable expense. The gas is conducted by a pipe to the bottom of the furnace, from whence it is sent into the boilers and heating stoves, and there consumed instead of coal. The blast of the furnace is heated to a temperature of from 900° to 1000°, without the use of any coal whatever. The gas is taken from the top of a furnace by a process similar in many respects to that adopted at some of the works in the North of England, but somewhat different as to the mode of conducting off the gases. The alterations have given the most satisfactory results, the produce of iron from the same quantity of ore being considerably larger than by the old method, whilst the quality is also superior. The saving in fuel—an item of so much importance—has been something enormous, making a difference of many tons of coal per week, yet doing the work more efficiently.—The alterations and improvements were suggested by Mr. Giers, of Middlesboro', and ably carried out by Mr. Marsh. The boilers, which are arranged for being worked by gas, were made by the Parkgate Company. The cost of the alterations, which is considerable, will soon be repaid by the great saving in fuel, and the superior quality of the iron produced. From the many advantages of the system we think it is worthy of the consideration of iron-makers in all parts of the kingdom—more especially in those districts where coal and coke have to be imported from a distance.—*Am. Railway Times.*

A telegram from St. Paul dated July 14 says: "George L. Becker, President of the St. Paul and Pacific Railroad, recently received a cable dispatch from the representative of the European stock and bondholders, authorizing and requesting the construction of the road this year to Breckinridge, its objective point on the Red River of the North. This can and will be done. It involves the construction this season of 174 miles of road, and an expenditure of \$6,000,000.

"Trains to-day, for the first time, run through the big woods to the edge of the prairie, seventy-five miles from St. Paul. From thence the route is mostly prairie to Red river, through one of the finest agricultural regions to be found anywhere. A large portion of the Swedish and Norwegian immigration daily arriving goes out upon the line of this road, first as laborers upon the road and simultaneously as settlers upon the lands. The Northern Pacific Railroad will make Breckinridge their point of departure for the far West, and thus maintain connection with the entire railroad system of the United States. The entire distance from St. Paul to Breckinridge is 214 miles."

BREAKAGE OF STEEL RAILS.—Some steel rails of English, French, and American manufacture have broken in service. In several cases the cause has been ascertained by the direct analysis of the broken rail. The cause was phosphorus. In some other cases, where analysis were not made, the general character of the iron used has been ascertained, and the trouble has been inferred to be phosphorus or, in some cases, an excess of silicon. It is well known to steel-makers that a very minute proportion of phosphorus (above .02 per cent.) will make Bessemer steel brittle. In other cases, rails have broken at the mark of the "gag" or instrument for straightening the rail cold. The rails had not been properly hot-straightened or were finished at too low a heat. More rails have broken through punched fish-bolt holes and at punched nicks in the flange than at any other places. Experiments prove that punching a hole in a steel rail sufficiently hard to wear well weakens it. Three or four rails are reported to have broken or rather crumbled by reason of large flaws. Upon examination, it was found in one case that a steel rail end had been placed in an ingot mold, and that the liquid steel poured around it had not perfectly united to it. This practice in casting was therefore abandoned. In another case, a lump of clay appeared to have fallen into the mold and to have become cast into the ingot. In another case, too much of the flag-end of the ingot had been left upon the rail—in other words, the rail had been sent out in an unfinished state. These causes of failure will be again referred to.—*American Railway Times.*

The Sacramento *Union* estimates that the transportation of the iron of the Union and Central Pacific roads—at 100 tons per mile, and 1,176 miles from Omaha—cost them just about as much as its prime cost in St. Louis, \$64, gold, per ton, when, if they had been furnished with rails from manufacturing, say at Salt Lake or Laramie Plains, it would have cost but one-third as much. The prime cost of iron for the whole road, delivered at St. Louis, was about \$11,000,000. Add to this \$11,000,000 for transportation, and we have the real cost to the company. Deduct two-thirds of the transportation cost—\$7,333,333.50—and we have \$14,666,666, what the real cost would have been had the company's rails been supplied at Laramie Plains or Salt Lake. In twenty years the *Union* estimates that the gold and silver producing West will lay 20,000 miles of new rails, and if their iron ore can be worked up as cheaply as is done at Carondelet or Pittsburg, that the saving in the construction of railways alone would amount to \$100,000,000 in gold.

Between Delphi and Rockport, Indiana, on Saturday night, a pole was bent over the railroad with a stone attached to one end in such a manner that when the train came along it struck and smashed the headlight.

—Minnesota has but 2,000 inhabitants, whereas twenty years after, and about present writing, it has 400,000 inhabitants or more, 562 manufactories, and 500 miles of railway.

—The heat emitted from the sun in a year is equal to that which would be produced by the combustion of a layer of coal seventy miles in thickness.

—Lava has been known to flow over a layer of ashes underneath which was a bed of ice. The non-conductivity of the ashes saved the ice.

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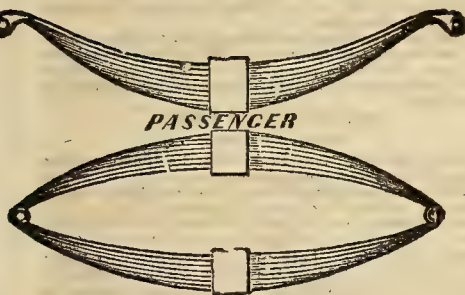
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7.00 A. M., CINCINNATI EXPRESS,
(Sundays excepted.) Arrive Dayton 9.10 A. M.; Urbana, 10.28 A. M.; Galion, 1.00 P. M.; Mansfield, 1.41 P. M.; West Salem, 2.47 P. M. (Dine); Akron, 4.22 P. M.; Ravenna, 5.00 P. M.; Meadville, 8.00 P. M.—(Sleeping Coach through to New York); Susquehanna, 7.55 A. M. (Breakfast); Turner's, 1.42 P. M. (Dine); New York, 3.00 P. M. Connects at Ravenna with Cleveland & Pittsburgh Railroad for Hudson and Cleveland; at Binghampton for Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.9.45 P. M. LIGHTNING EXPRESS,
daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.25 A. M.; Galion, 4.05 A. M.; Mansfield, 4.50 A. M.; Akron, 7.32 A. M.; Ravenna, 8.16 A. M.; Leavittsburg, 9.00 A. M. (B'k't); Meadville, 11.30 A. M.; Hornellsville, 6.14 P. M. (Supper); New York, 6.30 A. M. Connects at Mansfield with Pittsburg, Ft. Wayne & Chicago Railway for Pittsburg, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities. New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through 860 Miles without Change.Boston and New England Passengers, with their Baggage, are transferred **FREE OF CHARGE** in New York.

The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street, New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

Baggage Check'd Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY,

Which can be obtained at the Company's Offices in Cincinnati, 80 West Fourth Street, 115 Vine St., 4 Burnet House, and foot of Broadway, (Spencer House Block) and at all principal Ticket Offices in the South and South-west.

L. D. RUCKER,
General Sup't.WM. B. BARR,
Gen'l Pass'r Ag't.

GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

-TO-

**BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON.**

WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**From Cincinnati or Columbus to **Baltimore** and but ONE CHANGE to **Philadelphia and New York.**Ask for TICKETS and BAGGAGE CHECKS via **Baltimore & Ohio R.R.**J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
G. B. GIBSON, General Western Passenger Agent.**Cincinnati, Hamilton & Dayton Railroad.**

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City..	7 00 A. M.	9 30 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City..	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at head office, south-east corner of Broadway and Front; Burnett House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.

Omnibuses call for passengers.

JANUARY 5th, 1868.**Cincinnati to St. Louis Without
Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI,	7 49 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	8 30 a.m.
Arrive SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O. H.,	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine Street, Corner Front and Broadway and at Depot, Foot Mill Street.

C. E. FOLLET, Gen. Passenger Agent
J. W. CUNEO, General Superintendent**Best Route to St. Louis and Chicago****INDIANAPOLIS,****CINCINNATI**

-AND-

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,**CAIRO,****CHICAGO.**

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha and all Rail and River Towns and Cities in the West, North west and South-west.

5 THROUGH TRAINS DAILY,

(Sundays excepted,) as follows:

	Leave.	Arrive.
Cambridge City & Chicago Express...	7 00 am	10 50 pm
Indianapolis and Cairo Express.....	6 30 am	2 30 am
Cairo and St. Louis Express.....	3 00 pm	4 08 pm
Springfield, Quincy and St. Joseph Express.....	3 00 pm	4 08 pm
Chicago Lightning Express.....	6 50 pm	11 30 am
St. Louis Lightning Express. Sunday instead of Saturday night.....	11 00 pm	6 15 am

No change of cars between Cincinnati, St. Louis and Chicago.

Elegant Sleeping Cars on all night trains.

ACCOMMODATION TRAINS.

	Leave.	Arrive.
Lawrenceburg Accommodation.....	10 10 am	8 35 am
Harrison.....	5 30 pm	9 15 am
Lawrenceburg.....	4 45 pm	2 00 pm

Through Tickets can be obtained at the Burnett House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.

A. E. CLARK, General Ticket Agent.

Philadelphia, Wilmington & Baltimore**RAILROAD!****FOUR PASSENGER TRAINS DAILY**

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. (Express); 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West, 7.35 A. M.; 7.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express).

SUNDAY TRAINS—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Old And Reliable Route.

Through to Pittsburg without Change.

The PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton, and Little Miami Railroads, still continue to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

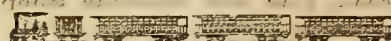
For Rates, Bills of Lading, or any information desired, shippers will please apply to

H. W. BROWN & CO.,

No. 27 West Third Street, Cincinnati.

W. P. SHINN, General Freight Agent.
Pittsburg, Pa.**CENTRAL RAILROAD**

-OF-

NEW-JERSEY.

On and after Monday, May 21, 1866, three Express Trains will leave New York daily (Sundays excepted), via Central Railway of New Jersey, and Allentown, leaving Pier 15, foot of Liberty street, North River, at 7:00 and 9:00 a. m. and 12:00 p. m. On Sundays, one Express Train at 8:00 p. m.

Passengers by this route save 60 to 130 miles, and Two Hours' Time over other Lines, with but one change of cars to Chicago or Cincinnati, and but two to St. Louis. Passengers front the East by Sound Boats or by Rail in the morning, will have time for Breakfast before leaving the City. Fares always as low as by other Lines.

State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives at Harrisburg 2 p. m., Pittsburg 12 night

9:00 a. m.—MORNING EXPRESS, for the West. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with Lehigh Valley Railway to Mauch Chunk; at Reading with Philadelphia & Reading Railway for Pottsville, arrives at Harrisburg at 5:30 p. m. Without change of cars from New York to Harrisburg.

8:00 p. m.—EVENING EXPRESS, for the West, with but one change to Cincinnati or Chicago, and but two to St. Louis. This train leaves New York Two Hours later than other Lines, and arrives at principal places West at same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives at New York at 6:00 a. m. next day.

3:00 a. m.—EXPRESS TRAIN, from the West, leaving Pittsburg at 4:20 p. m.; passes Harrisburg at 3:00 a. m.; Reading at 4:49 a. m.; Allentown at 6:00 a. m.; Easton at 7:09 a. m. Through cars from Pittsburg to New York.

9:05 a. m.—FAST LINE, from the West, leaving Pittsburg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Reading at 10:52 a. m.; Allentown at 12:02 p. m.; Easton at 1:10 p. m. Through cars from Pittsburg to New York.

7:25 a. m.—WAY TRAIN, from Harrisburg, passing Reading at 10:49 a. m.; Allentown 12:20 p. m.; Easton at 1:35 p. m. Through cars from Harrisburg to New York. Arrives in New York at 5:20 p. m.

2:10 p. m.—FAST MAIL, from the West, leaving Pittsburg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Reading at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at 7:20 p. m. Through cars from Harrisburg to New York. Arrives in New York at 10:45 p. m.

H. P. BALDWIN, General Ticket Agent.

**BEST ROUTE TO
ST. LOUIS & CHICAGO.****Monday June 24.****INDIANAPOLIS & CINCINNATI****RAILROAD.****Three Through Trains Daily.**

	Leave.	Arrive
St. Louis & Chicago Ex.....	7 00 A. M.	9 10 A. M.
Springfield & St. Joseph Ex.....	12 00 P. M.	4 30 P. M.
St. Louis & Chicago Ex.....	4 55 P. M.	12 15 A. M.

Sleeping Cars by this train for St. Louis and Chicago.

Accommodation Trains.

	Leave.	Arrive.
Lawrenceburg & Brookville Accommodation.....	5 15 P. M.	5 05 A. M.
Harrison Accommodation.....	10 10 A. M.	2 25 P. M.

Through Tickets can be obtained at the Burnett House, Spencer House and Gibson House Offices; also at the Depot; The Passenger Depot of the Indianapolis & Cincinnati Railroad is within a few squares of all the principal hotels in the city.

J. F. RICHARDSON, Asst Superintendent
F. B. LORD General Ticket Agent.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON, - - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - - THURSDAY, AUGUST 19, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
" " per month.....	5 00
" " six months.....	15 00
" " per annum.....	25 00
" column, single insertion.....	7 00
" " per month.....	14 00
" " six months.....	55 00
" " per annum.....	110 00
" page, single insertion.....	25 00
" " per month.....	22 00
" " six months.....	131 00
" " per annum.....	250 00

Cards not exceeding four lines, \$7 00 per annum.

WRIGHTSON & CO., Prop's.

The Future of Cincinnati—A New Era Ahead.

There has been nothing happened to Cincinnati in a long time so indicative of progress and prosperity as the Textile Fabric Exhibition. In itself, it was a useful thing, and in some shape—say that of an Annual Fair of Textile Fabrics—this exhibition ought to be continued annually. It would be of immense benefit to the manufacturers, as well as the city; for one thing is very obvious in looking over the fabrics exhibited, and the names of the factories and proprietors, that the public, and even those who deal in such things and are most interested, did not know of the existence of so many and such excellent fabricators of such useful goods in the West.

We supposed ourselves to be pretty well acquainted with the extent and quality of woollen and cotton manufactures in Ohio, Indiana and Kentucky, but we confess ourselves astonished at both the extent and quality of these fabrics in this region. We did not suppose they exceeded one-third in quantity, or at all equaled in quality what we see now that they do.

In the midst of this exhibition and its good results we see, however, that Cincinnati exhibited very little. Why is this? One reason is, doubtless, that manufacturing of woollen and cottons require much more capital to be carried on successfully in large cities, on account of buildings and grounds, which are very costly. But this is not a sufficient reason. Some years since we met with a gentleman from Philadelphia, who had just paid a million of dollars in Ohio for wool, and consumed 600,000 lbs. in his own factory, at Philadelphia.

Now, this is what Cincinnati ought to do. She ought to have half a dozen factories of wool on a large scale. They need not be in the midst of the city. On the contrary, go out on the Little Miami and use the water power—at Plainville, Milford or Morrow—which can be put to use just as well as that of the Merrimac river in Massachusetts. Steam would, of course, be needed with it, but both together would make as good, and much cheaper factories than any in Massachusetts or Philadelphia.

But whatever course things may take in that respect, it is certain that the Textile Exhibition will be, commercially, very beneficial to Cincinnati, and to the manufacturers. It brings the merchants and the factories near together, and thus teaches the former where they can buy the best articles, and the latter where they can find a market. Heretofore, they have not known each other, but now they are introduced, and the acquaintance will be mutually beneficial.

It is very evident that the New England manufactories must lose much of the Western markets, and equally evident, that with this change is coming a general change in the relations which have heretofore been sustained between the Eastern States and the Central West. The great States which lie in the Ohio valley have near 10,000,000 of people. It is quite evident from the Textile Exhibition, at Cincinnati, that they are quite able to furnish and can do it profitably, every yard of woollen and cotton goods required for their use. Nay, it seems to us, that they can compete successfully, in any market, with the Eastern manufacturers.

The Exhibition proved this, and it proved more: that the quality of the goods made in the small factories of the West was in many cases superior. But, there is certainly one theory in the way of Western competition. That is, the accumulation of large capital. The power of capital, accumulated in masses, to control both markets and workmen is well known. But capital has accumulated in parts of the West, especially such places as Cincinnati, Dayton and Louisville, in sufficient quantity to make extensive factories, and to compete on an extensive scale with the factories of the East. Montgomery county (Ohio), for example, is probably as wealthy, in proportion to the inhabitants as any district of the United States, except the banking parts of Boston, or New York. It is, therefore, easy, if it be shown to be profitable, to erect factories on a large scale in the Miami country, or in the Louisville district. Let us now show some reasons why this should be done, and must yield large profits.

1. Ohio has in round numbers 7,000,000 of sheep, and they are increasing in Indiana and Kentucky. Probably, at this time, the wool produced in these States amounts to 30,000,000 pounds annually—worth nearly fifteen

millions of dollars. What becomes of this wool? Heretofore it has gone to the factories of New England, New York and Philadelphia. Manchester, Nashua, Philadelphia, Lowell, etc. have absorbed most of it. But we see by the Textile Exhibition, that several towns of Ohio, Indiana and Kentucky have now woollen factories, and that their products, especially blankets rank among the best in the country. Hence, it is very evident that this kind of manufacture may be conducted here successfully; but is it not very evident, that this being granted, the woollen factories can be carried on here more profitably? The raw material, the coal, the water, whatever may be needed are here the cheapest.

2. As to cotton manufactories, the same thing is substantially true. 100,000 bales of cotton are carried through Cincinnati, from Memphis to the East. Whatever the transportation from Ohio may be, it is certain that there is that difference in favor of Ohio manufactures. In addition to this, there is the advantage of cheaper food, cheaper coal, and in fine—cheaper raw materials of all kinds.

3. But let us look more particularly at the cost of manufacturing here: As to wool and cotton, it is clear, they are cheaper, and if we examine all the elements which enter into the wool manufacture, this will be found true; the largest element undoubtedly is labor, and we think it likely, that labor in New England is now cheaper than in Ohio. But this can not continue, for the cost of food is decidedly cheaper. Take the two leading staples of food—bread and meat—both these are much cheaper in Ohio. All the flour of New England is brought from the West, and so very largely is the meat. Meat is 50 per cent. higher in New England. The cost of food must ultimately affect the price of labor, and it must be that labor will be as cheap in Ohio and Indiana as in any part of the country. As to coal, which is the ultimate motive power of machinery, it is probably more abundant and therefore cheaper in the Ohio Valley than in any part of the country. The new Geological surveys in Indiana have developed rich beds of both coal and iron, which will soon be availed of to the great advantage of that district. So we think it certain, that the Central West must soon develop itself in the line of manufactures to a very great extent.

Now, it is to this development that Cincinnati must look for future growth. The Textile Exhibition has given her the advantage, by introducing the merchants to the fabricators, and taking the initial in becoming an emporium for Western fabrics. If Cincinnati continues to encourage such exhibitions, and to sell western goods, she may, in time, become one of the greatest centers of manufacturing industry in the world, and such we think is its destiny. All things are now conspiring to make Cincinnati a vast central city,

and gives it the supremacy in the interior of the country. Whatever course may be taken in regard to legal and constructive measures as to the Southern Road, it will unquestionably be made in some way, and will double the interior trade of Cincinnati. But hardly second to this are the bridges over the Ohio, which will make Covington and Newport—soon to be great cities—one with Cincinnati. The Suspension Bridge is the finest in the world, and already does a great business. The Bridge from Newport is going on well, and will soon be completed, and there will, in a short time, be another bridge from near Mill creek to Covington. Thus, the grand amphitheatre made by the Ohio at Cincinnati, will be filled with an immense city—the metropolis of the Great Western World.

The Albany and Susquehanna Railroad.

The past fortnight has witnessed another railroad war. Since the great Alton Riots, railroad controversies have been confined to the stock boards and the bulls and bears. Now, however, we again find a resort to the *argumentum ad hominem*.

The Susquehanna road was projected as an outlet for a very fertile region having no internal improvements, and was also designed as a coal road. It met with much opposition from the New York Central, and utter indifference from the Erie. Through the exertions of Senator J. H. Ramsey, the road was completed, and has been in operation about a year. Its local traffic is large, and it has been a paying investment. The Erie, discovering its value as a feeder, and as a short route to Boston, now endeavors to control it, but President Ramsey, considering himself capable of managing the creation of his hand, objects. Each claims to hold a majority of the stock, and injunctions are liberally indulged in. Admiral Fisk, armed with the edict of a New York judge, attempted a flank movement on the Company's offices, and found himself in an Albany Station house. From Binghamton the Erie raiders precipitated themselves on the Bainbridge tunnel, where they found the enemy intrenched, and the war waged harmlessly, except to the track and trestles, till Gov. Hoffman took possession of the road, and commanded peace.

The question of control seems to hinge on the transfer of the stock held by the town of Oneonta, which is alleged to have been illegal, because sold at less than par. The road is now in the hands of Robt. L. Banks, (a relative of Erastus Corning, and late Secretary of the New York Central) as receiver, and will so remain probably until the election on Sept. 6. The damages to the track will be immediately repaired. We shall look with interest for further developments in the case of Fisk vs. Ramsey.

The Erie Railroad.

The company are negotiating for the lease of the Monticello and Port Jervis road, an extension of the New Jersey Western, of which the Erie already has control, and which it is said they intend to complete to Port Jervis in two years.

The officers of the company, with their numerous assistants, clerks, operators, and other employes, will soon vacate the large gray building at the foot of Duane street, North River, and remove to their new quarters, in the grand Opera House, at the corner of Eighth avenue and 23d street. [We condense from a long account in the New York World.] These new offices occupy all that part of the building outside of the main auditorium, and one corner on ground floor. It is claimed that they are by far the grandest in the world.

The Grand Hall,—formerly Pike's Music Hall,—is 62 feet square, and the open space in the center, from which the visitor enters the small offices, is a marble pavilion, dotted with black diamonds. On either side is a semi partition of glass. On the right are three doors, leading to the Superintendent's, the Assistant Superintendent's room, and the Vice President's private office. To the left are three doors leading to the supply agent's rooms; about twenty feet square. In the rear of the grand hall is a cross semi-partition, forming a large ante-room between the hall and the three rooms occupied by Mr. Gould, Mr. Fisk and Mr. Otis. The opening over the pavilion extends up two stories, and there is a gallery surrounding, over which are seen other elegant offices on the next floor.

Mr. Jay Gould's room is 22x24 feet, and has a raised platform between the windows. He will have seventeen electric bells before him connected by wires with every part of the building. This takes three miles of wire, and he can send the electric thrill to bring any officer under him, including Mr. Fisk. To send a message to any station on the Erie road, in fact any part of the country, he has but to write it, tap a bell, which brings an operator out from a walnut cubby-hole in one corner of the room, where there are instruments for telegraphing to any point.

Mr. Fisk's room, connecting with Mr. Gould's, is fitted up in nearly as grand style, and has the same arrangement for telegraphing to the different parts of the building.

The Directors' room opens from the Secretary's room, and is 37x22 feet. The Directors' dining room, 15x20 feet is adjoining, and next to that, to the left and towards the rear of the building, is the officers' dining room. At the head of the stairs the freight agent has a beautiful suit of four rooms, and the superintendent of motive power has three more rooms, facing on Eighth avenue. The counsellor's room is in the rear of the grand hall, on the lower floor, and is superb in all its details. On the fourth floor, over the grand hall, is the auditor's department. The auditor has a suit of private rooms in front, and his clerks, about fifty in number, occupy the main floor, which, with its rows of high desks, resembles the inside of a commercial college.

Passing through a narrow hall you come to the apartments of the janitor, cooks, waiters, and a complete kitchen for cooking the dinners.

The treasurer's department is the least advanced towards completion. In the rear open the massive doors of the vault, which cost \$80,000, and is accessible upon every floor, 16 feet square, and extends from the cellar to

the roof. If the building were to burn down, the vault would stand like an immense chimney.

The telegraph office on the fourth floor, over the counsellor's room, and is 20x25 feet. There are sixteen wires which go out at the roof and down to the polls.

The printing office is in the basement, and is one of the first as regards light, air, and convenience, in the city. It covers a space 99x84 feet. It will contain six of Hoe's cylinder presses, a numbering machine, ruling machine, and everything else required to make a first class printing establishment. The presses are run by a thirty horse power engine, which also runs two elevators. The boiler runs a pump in addition to the engine, to raise water to the upper stories, also intended for use in case of fire, and capable of throwing a thousand gallons per minute. The cost of the printing office is estimated at \$50,000.

The cost of re-modeling this building and fitting up the apartments, will amount to between \$250,000 and \$300,000.

G. F. T. ON THE NORTHERN PACIFIC.—Geo.

Francis Train improved the occasion of a visit to Jacksonville, Oregon, to soundly rebuke the inhabitants for daring to think of building a Northern Pacific Railroad. It is uncharitable to suppose that "my 5000 lots in Omaha" prejudiced his utterances.

Travelers' Official Guide of the Railways and Steam Navigation Lines in the U. S. and Canadas.

We received the above work, for August, in new form. It has been changed to a royal octavo, and we think it a great improvement. Mr. Vernon, the compiler and editor seems peculiarly qualified to produce a satisfactory guide, and deserves to be as well supported by the traveling public as he is by the Railway officials.

The track of the McGregor & Sioux City Railroad is now being laid and cars will be run to Clear Lake by the 1st of November of this year. From Clear Lake, West, except at the crossing of the Des Moines river at Algona, the country is entirely new, soil excellent, and only awaiting a railroad to secure rapid development. Large quantities of Government lands in Palo Alto, Clay, O'Brien and Sioux counties are to be brought into market this fall.

The Cedar Falls & Minnesota Railroad is now in operation from Waterloo to Charles City, and is to be extended from this place to Austin, Minn., thus making one unbroken line of railway to St. Paul, Minn., a distance of one hundred and fifty miles. At Waterloo this railroad also connects with another railroad, now nearly completed, making a through line of railroad to St. Louis, Missouri, four hundred and fifty miles.

A NEW SLEEPING CHAIR.—Hon. T. C. Theaker, the late Commissioner of Patents, has obtained a patent on a railroad sleeping chair of his own invention, which he will soon introduce into use. It is said to be a complete arrangement for the comfort of railway passengers.

The Railroad War.

[From the N. Y. Tribune]

ALBANY, N. Y., Aug. 12.—Business is now transacted at the Susquehanna Railroad Office as quietly as before the trouble. Everything is quiet along the line of the road also. The force sent out in the Ramsey interest returned to the city this afternoon. All the men collected at the different points have dispersed. The track is being rapidly repaired, and the rolling stock put in order for running. Gen. McQuade has gone out to Binghamton as Superintendent. Van Valkenburg is here in charge of the office in connection with the Executive Agent, Col. Banks. Inspector-Gen. McQuade left this city this morning in a special train for Binghamton. This afternoon he reported by telegraph as follows:

"I found the line in the following condition: The trestle bridge between Afton and Harpersville had been rendered impassable. The trestle bridge between Harpersville and the tunnel is dismantled and partially destroyed, the rails removed from the trestle bridge about two miles from the tunnel, and a freight car off the track in the tunnel. I caused the rails to be repaired by some men of the Albany party, while the party from Binghamton restored the freight car to its position and brought it to this station. The men are now at work repairing the remaining obstruction to travel, to wit, the trestle bridges. One of them is so much injured as to render it impossible to have the repairs completed before to-morrow night, at the earliest. I think, however, you may rely upon trains running regularly Saturday morning. The party at the tunnel this morning was quiet and tractable, and obeyed my orders with alacrity. The soldiers have all been relieved, the men from Albany and Binghamton sent home, and nothing now remains but the completion of the two trestle bridges to place the road *in statu quo ante bellum*.

JAS. MCQUADE."

TUNNEL STATION, N. Y., Aug. 12.—The great Erie and Susquehanna Railroad war is over, as far as open air fighting is concerned. The people along the line are very bitter toward the Erie Company, and they look on the late raid as an outrage.

I came up here this morning with a company of the Erie men, and will give a sketch of the situation at that time. We had four or five cars, including a provision car and a wrecking car. On board were the Division Superintendent, section bosses, mechanics, clerks, and reporters. The cars were well filled, and we moved cautiously. The interior of the wrecking car looked like business. There were old carpet-bags, picks, crowbars, chains, shovels, frogs, cable, and everything, in fact, that such an expedition would require. The provision car was well supplied with beef, bread, crackers, ham, &c. The morning was pleasant, and the air exhilarating. Leaving the depot we soon came to the spot where the track was torn up the day before. Here and there a telegraph pole was gone, and the wire supported by boards driven into the ground. All along the line we passed the sentinels, watching faithfully at their posts, and here and there groups of men in citizens' clothes, nearly all of whom were armed with clubs. The train stopped at intervals to put off rations. At Port Crane, six miles from Binghamton, we stopped for "orders" and to allow the down train to pass.

While waiting for the train, the Erie guards crowded around, each anxious to hear from home. They had queer stories to tell of the

treatment they had received at the hands of the Ramsey people. They looked haggard and tired; still they expressed their determination to fight it out on "that line" if it took all Fisk's money. One of the men said that he went to a house yesterday to get something to eat. A woman met him at the door, and asked who he was. On learning that he was an Erieite she exclaimed: "Leave here, you dirty lout! I will never give a Fisk man or a Democrat a single mouthful of food!" At another place, an old farmer, on being asked for a drink of water by one of the men, said: "Get your water pretty d— quick, and get out of this! You fellows have no business around here, any way." Nearly every man had some complaint to make about the ill temper of the people living along the road. It was not uncommon for a woman to greet a guard thus: "Go back to New York, you Fisk man. Ain't you ashamed to come up here and steal our railroad. Go back, we don't want you here." At night time the Susquehanna men came out of the woods, and held parley with the watchers, but they did nothing beyond parting with a few choice oaths and epithets. At various points between here and Binghamton, parties of the Susquehanna boys were encamped at the base of the Chenango valley, a few hundred feet below the track. At intervals their fires could be seen brightly blazing through the dense growth of hemlocks.

At length the long looked for train appeared. It was picking up the guards and taking them to the city, and the green railroaders set up a regular guerrilla yell. "Give us a biscuit, old fellow," said one: "Dry up, don't talk about biscuit, I haint had a square meal for a week," cried another, and among them all there did not seem to be a single man who had slept in a bed, or who had eaten at a table for a fortnight. Still every one enjoyed the "fun," as they called it. Most of them looked very seedy, and one might easily imagine that they had been on a six months campaign. Tin cups were tied to their button holes, and some had bottles slung over their shoulders.

On arriving at the tunnel we found the depot filled with people. The militia were quartered near by. The tunnel is about 300 yards north of the station. There is an embankment of broken stone between, and on it one of the battles was fought. The broken stones are abundant, and a better place for the fight could not have been selected. A long, steep hill rises far above the tunnel, and for miles around the beholder is bewildered by the beauty of the scenery. Valleys, shining rivers, green slopes, and long lines of hemlock forests are bathed in the first tints of Autumn. One will travel far before finding lovelier scenes than among the hills of the Chenango and Susquehanna. The soldiers and civil guards were here put on board, the train, and we returned to Binghamton.

To-day the people of Binghamton are gathered in the streets and in the hotels discussing the Erie and Susquehanna question. Many of them are opposed to Fisk and Gould, but there are not a few, however, who think that the Albany people are unwise in fighting against Fisk. They say that it would be the best thing possible to have Albany become the battle-field of competition between Vanderbilt and Fisk. Though they do not always approve of the manner in which the Erie went to work, still they declare that as Fisk did not injure the road the Susquehanna people did wrong in tearing up the track and delaying the trains and the United States mails.

On the arrival of the afternoon train at Afton, on Monday, under the Erie management, it was obliged to stop, as three rails had been removed by the order of Superintendent Van Valkenburg. The citizens flagged the train for the safety of those on board, or a great loss of life would have ensued. The course taken by the Governor is universally commended by law-abiding citizens. Broome County will have to pay the expenses of calling out the militia. The inhabitants along the road are in great fear, and some of them locked their doors and extinguished the lights on the approach of the General's train. They say that they did not know but they were Fiskites. The New York Central people rejoice at the result of the fight, and some of them said had the Governor not interfered they would have made a finish of the Erie men.

Superintendent Pratt of the Erie Railway returned the three trains taken from the Susquehanna track, and Superintendent Van Valkenburg has sent back the captured Erie engine.

RE F THE "ADMIRAL" FROM ALBANY.

ALBANY, Aug. 12.—While James Fisk, Jr., was partaking of his dinner yesterday, he was told that an officer was after him with a warrant from Judge Peckham. He immediately jumped into his carriage, drove over to Columbia-st. bridge and hired the steamer Erastus Corning Jr., to take him out in the middle of the river. Fisk was conveyed to the St. John by the Corning Jr., and went down to New York last evening. It is said that the Corning was originally chartered for conveying Messrs. Pruyn, Ramsey and Van Valkenburg to New York, on the attachment issued by Judge Barnard. It was then the design to put Mr. Courter in the Susquehanna office, and keep him there. This miscarried, and Fisk retired, beaten at every point.

FISK "NOT AT HOME."

Mr. Fisk arrived safely from the seat of war yesterday morning, in his chartered steamer, and all day yesterday he was "lying low" at the Erie offices, admitting no one except on very special business; and then only after careful reconnoitering.

The great excess of our domestic over our foreign trade is seen in the fact that the aggregate imports and exports of the whole country do not exceed \$600,000,000 in value, whereas the goods, produce, merchandise, &c., transported in New York alone are now nearly \$2,000,000,000 in value during the year.

The increase of miles of railroad in the United States for the ten years from 1840 to 1850 was over 200 per cent; from 1850 to 1860 the increase was also over 200 per cent; and from 1860 to 1870 it will probably be 50 per cent, or from 30,000 miles in 1860 to 45,000 miles in 1870. From the year 1870 to 1880 we may safely estimate an equal percentage of increase, should the country remain at peace. Sanguine people believe in an increase of from 66 to 75 per cent in that period, or from an aggregate of 4,000 in 1870 to 75,000 to 78,000 miles in the year 1880.

We have in this State over 20 railroads, projected or in progress, with an aggregate length of over 900 miles. Pennsylvania, Maryland, Virginia, Ohio and other Western States are making strenuous exertions to develop their resources by the extension of railroads.

Illinois Central Railroad.

The statement of this Company for the month ending July 31, 1869, is as follows:

LAND DEPARTMENT.

Acres	Construction	
Lands sold.....	4,850.68	for \$46,576 91
Acres Int. Fund		
Lands sold.....	199.86	for 2,317 48
Acres Free Lands		
sold.....	680.00	for 10,614 00
Total sales during		
month of July, 1869	5,730.54	for \$59,508 39
To which add Town		
Lot Sales.....		250 00

Total of all...	5,730.54	for \$59,758 39
Cash collected in		
July.....		\$135,356 68

TRAFFIC DEPARTMENT.

Receipts from Freight.....	\$344,494 00
do. Passengers.....	129,899 34
do. Mails.....	6,358 33
do. Rent of Road.....	4,000 00
do. Other Sources.....	55,000 00

Total Receipts in July, 1869.....	\$539,751 67
Total Receipts in July, 1868.....	\$481,214 34

Estimated earnings in the month	
of July, on the D. & S. C. R. R.,	
not included above.....	\$122,042 10
Corresponding month of 1868.....	\$67,301 58

UNION PACIFIC R. R.—The returns for March and April are as follows:

PASSENGERS.—In March the earnings were \$175,000; in April \$340,000—an increase of nearly 100 per cent. But these returns were for a term preceding the opening of the through route. The month of May and the current month will show a remarkable increment. The through travel has quite exceeded the expectations of the officials. A few days ago, for example, a single train brought hither 140 through passengers from San Francisco. At present the average will exceed 50 through passengers each way per day. It is calculated that by the present month the earnings on passengers will reach \$1,000,000 per month.

FREIGHT.—In March the "commercial freight" carried was 5,293 tons, receipts \$220,272 95. The "contractors' freight" was 8,034 tons, receipts \$136,453 07.

In April the total "commercial freight" was 5,344 tons, and the receipts \$204,584 30. "Contractors' freight" 10,225 tons; "Government" 472 tons; earnings \$18,223 21.

MISSOURI PACIFIC R. R.—Of the \$7,000,000 of 9 per cent. gold First Mortgage Bonds, \$4,000,000 have been sold to capitalists in Germany, and \$2,200,000 in this country. The remainder \$750,000 are for sale at 95 and accrued interest in currency.

The road runs from St. Louis, 283 miles, across Missouri to the Kansas State line.

The gross earnings for 1868-9 were \$3,077,890; operating expenses \$1,959,652; net earnings \$1,118,238. The earnings this year show a large increase. The interest on the entire loan is \$420,000 in gold.

The first through sleeping car for St. Louis left Lawrence on the 5th inst.

NORTH PACIFIC R. R.—The Helena (Montana) *Herald* publishes a comparative statement of distances on the three proposed routes, from which, says that journal, it will be seen that by whatever route selected, the road will pass within 40 miles of that place. That by the Gallatin and Deer Lodge will cost \$2,739,000 more than Johnson's line; and if the route by the Clearwater be practicable, it will cost \$2,283,500 less—estimating the cost at \$41,500 per mile.

THE ATLANTIC AND TENNESSEE RAILROAD.—Have no fear of a false prophecy if we predict that the certain result of other railway projects hastening to completion at this moment, will induce the sagacious Central Railroad Company to extend their road, on as nearly an air line as may be practicable, from Tennessee, in Washington county, Atlanta. Such a move is a necessity to the Central Road, in order to maintain that ascendancy among the roads of our State which we (without disparaging others) wish to see that great road preserve; in other words, we wish abundant success to all other roads constructed and in progress; but we should be rejoiced to see the Central Road prolonged to Atlanta, through a fertile tier of counties at present untouched by any railway, and rendered so prosperous that it might still excel all competitors in the vastness of its business. When that extension comes, as surely it will, Milledgeville will be on its direct line. And when that is accomplished, no city in Georgia will be possessed of greater railroad facilities than ours—at present excelled by but few.—*Milledgeville (Ga.) Union*.

PITTSBURG AND CONNELLSVILLE RAILROAD.—The work on the extension of the Connelleville Railroad is now progressing in the most satisfactory manner. The contractors are doing everything in their power to push the work forward, having upwards of fifteen hundred laborers employed. A large number of the employees are from Canada. The prospects for the early completion of the road are flattering, and will be hailed with great satisfaction by our merchants and manufacturers. The work of improving the old portion of the road is also being pushed forward. The most important part of this work is the filling in of the trestle work between this city and Port Perry, on which a number of men are employed.—*Pittsburgh Chronicle*.

MEMPHIS, EL PASO AND PACIFIC RAILROAD.—Three full corps of Engineers have been in the field for several months on the line of road in Texas, making the final location of the line of road, laying of and superintending the work now under contract.

A large number of men are actively at work under able Contractors on the first division of 150 miles, which is under contract to be completed by March 1, 1870.

The iron, spikes, plates, etc., for the first fifty miles, also several of the finest and most powerful Locomotives have been purchased and paid for, ready for shipment to Texas.

Implements, carts, etc., to equip another 1,000 men have just been purchased in this market ready for shipment this week.

PORT ROYAL RAILROAD.—We regret to learn that although work had commenced some weeks since on the Port Royal Railroad, there is reason to apprehend that this enterprise—of such vital interest to this city and State—may again be suspended, if not abandoned.—*Augusta Constitutionalist*.

LITTLE ROCK AND FORT SMITH RAILROAD.—We are pleased to announce that Mr. Josiah Caldwell, the contractor on the road, accompanied by Capt. Haney, the secretary of the company, and C. W. Huntington, the attorney of Mr. Caldwell, have arrived in the city to make an examination of the work to be done. We are assured that a large force will shortly be placed upon the road.—*Ark. Gazette*, Aug. 3.

RAILROADS IN PERU.—The proposals for the construction of the Transandine Railroad, from Lima to Oroyo, near the head of navigation upon the Mayro River, were opened at Lima on the 18th of July. There were but three competitors, Henry Meiggs, Senor Montero, and a German by the name of Christian. Meigg's proposal is for \$27,000,000 in Peruvian bonds. Montero asks for £4,400,000 and a guarantee of seven per cent. on the amount. Christian 20,000,000 soles in cash and 13,000,000 in bonds. In all probability the three proposals will be referred to a committee either of engineers or merchants. Proposals for the Pascamayo Road have also been made by Mr. Meiggs. The first cutting was made on the Pisco and Ica railroad on the 18th ult.

The case of Cowdry vs. The Galveston, Houston and Henderson Railroad Company, will be heard by Judge Swayne, at Washington, on the 16th inst. This case involves the ownership of the road between Galveston and Houston, now the most valuable road in the State, receiving from \$6,000 to \$10,000 per mile annually, and is the trunk road to the coast. The suit is brought to foreclose mortgages on the road of over \$300,000 and is resisted by parties who have purchased it under execution. A decree for the sale of the road was made by Judge Watrous of Texas last year, and the question now arising before Judge Swayne relate to the settlement of the accounts and the liability of the rolling stock and station-buildings to the mortgages.

The Savannah and Gulf Railroad, which now extends from Savannah to Bainbridge, is to be extended to Chattahoochee, opposite Columbia, Ala., where it is to connect with the Southern Alabama Railroad, which is projected from Columbia to Pollard, the point of junction of railroads to Pensacola and Mobile. This will give the Savannah and Gulf a direct line to those cities, and, eventually, to New Orleans.

The chief engineer of the Honduras Inter-oceanic Railroad reports that large numbers of laborers are constantly arriving from Truxillo, Belize, Lewiston, and other points, and the work of surveying the road and laying the rails is progressing very favorably. The supplementary loan recently made in Paris for the continuation of the work has greatly increased the prospect of its early completion.

—The Illinois Central Railroad Company is now engaged in ballasting and improving its road between Chicago and Champaign. Several trains and a large force of workmen are now employed.

In the vigorous war now being waged between the Erie and Susquehanna roads for the control of the latter, the representative of Erie has earned the title of the Erie-pressible Fisk, Jr.

British Emigration.

Regarding the subject of British emigration, which is at present a subject of much interest, an evening paper in Chicago says:

The Emigration Commissioners of England have just issued their twenty-ninth annual report. The report is for the calendar year 1868. It shows a decrease in the emigration of Great Britain, especially of that squeezed lemon, Ireland. The report deprecates the fact that the great bulk of emigrants turn away from British colonies and seek homes in the United States. The following statistics are condensed from the voluminous tables of this report.

Since 1815 the average emigration from Great Britain is set down as 120,345 per annum, making a total up to date (January 1, 1869,) of 6,498,630. The emigration for 1868 was 196,325—a sum above the average but less than in several of the previous years. In 1863, English emigration reached 61,243; the Scotch, 15,230, and the Irish 116,391—in all 215,925. In 1868, the English emigrants were 58,268, the Scotch 14,954, and the Irish 64,965—in all 144,369, the remaining 51,356 being emigrants from Europe who passed through British ports. The emigration of last year was smaller than it has been in any year since 1847, with five exceptions.

It is further stated that nine out of ten of the Irish emigrants come to this country. The Irish detestation of the British flag accounts in part for the aversion to colonial settlement. The specific facts given are that of the 196,325 emigrants who sailed from British ports in 1868, 155,532 came to the United States; 21,062 went to the Canadas. In this connection it must be remembered that not a few whose ultimate destiny is the "States," come here via Quebec or Montreal, while no one thinks of touching at New York or Boston en route for the New Dominion. The number going to Australia and New Zealand was only 12,809. The balance, 6,922, distributed themselves miscellaneously, but more especially among the various South American countries.

While the British number of emigrants seeking our shores can not be said to be on the increase, yet it is worthy of special note that the proportion of British emigrants seeking our shores is on the increase. No less than four-fifths of the emigration of Great Britain is United States immigration. This fact is deplored by the Commissioners in their report, but to us Americans it is a cause of profound satisfaction.

The "Steel Rail" laid on the Chicago, Burlington and Quincy Railroad in June, 1867, shows little or no wear. Seven bars have broken, and in each instance, at the ends where holes for splice bolts have been punched instead of drilled. In some places where these rails are laid it has been necessary, heretofore, to replace the iron rails often as once in four months.

—When the Paris & Constantinople Railroad is completed—which will be in about five years—the passage between the two cities may be made in sixty hours, it is said. In a straight line these cities are about 1,400 miles apart, but the road will doubtless be 2,000 miles long.

The engineers engaged in the service of the Little Rock and Fort Smith railroad are now at work locating the line of the road through Johnson county.

The British Telegraph Bill.

The bill for the purchase of the telegraphic lines throughout Great Britain is a measure of great importance. The Government purpose extending telegraphic communication to the suburbs of all the large towns; to all the second-rate towns having railway stations, and to places in which at present there are neither telegraph or railway stations. It is contemplated to serve, under the new arrangement, 3,376 places, instead of 1,882 now served by telegraphs and railways; and to have 842 branch offices, instead of 247, existing at present. There is now one telegraph office to every 13,000 of the population; the Government will have one office to every 6,000 of the population. They propose, likewise, the creation of offices of deposit, every letter box and every pillar box being such an office, where messages will be received and sent to the telegraph office to be forwarded to their destination. The wires are to be brought into the money order office in every town and district, thereby bringing the telegraph into the center of a population, instead of its remaining, as it frequently does at present, in the outskirts. And, they contemplate extending in many places the number of hours during which the telegraph will be accessible to the public. It is proposed also to have one uniform tariff of 1s. for 20 words. The basis of the agreement entered into, under an act passed last year, for the transfer of the lines to the Government, was that a sum amounting to twenty years purchase of the net profits of the various telegraph companies up to the 30th of June of last year should be paid to the proprietors of those undertakings. On this basis, the amount to be paid to the companies is over \$28,500,000 gold, but other expenses will swell the total cost to \$33,500,000. It is expected that the lines will yield a gross revenue close upon \$3,500,000, and the expenditure will be nearly \$2,000,000, showing about \$1,500,000 net profit—enough to pay the interest upon the purchase money and leave a surplus of fully \$250,000. The number of inland messages for the year ending last December was 6,000,000, upon which number it is reckoned there will be an increase for the first year of at least 2,500,000. Much of this increase is expected to result from bringing the telegraph nearer the center of the population, experience, both on the continent and in England, having shown that wherever telegraph facilities are by this means placed within easy reach of the people a large increase on the number of messages is certain to follow. It is not worthy that, contrary to the opinion of some of the most experienced engineers, the Government, in the estimates, have calculated the life of a cable at fifteen years, and have, therefore, provided for replacing all the cables at the end of that time.

M. S. & K. C. R. R.—Memphis, August 19. —Delegates leave to-morrow, to attend the Memphis, Springfield & Kansas City Railroad Convention, at Springfield, on the 25th.

—The once celebrated, but almost useless Thames Tunnel, being required for the East London railway works, has been closed for traffic.

The amount of property left by John A. Roebling, the engineer, was \$1,500,000.

—Georgia Railroad stock sold at auction at \$1 04.

OUR BRIDGES AND RAILWAYS.—From returns made to the U. S. Assessor's office by the six bridge companies and five passenger railway companies, it will be seen that the good people of Pittsburg, Allegheny and Birmingham spend very nearly for passenger and railway fares, four hundred thousand dollars, and for bridge tolls nearly one hundred and fifty thousand dollars annually. Below we give a detailed statement of the receipts of the various companies for the six months ending June 30th:

RECEIPTS OF PASSENGER RAILWAYS.	
Citizens' Passenger.....	\$67,350
Pittsburg, Allegheny and Manchester.....	64,460
Pittsburg and Birmingham.....	37,500
Oakland and East Liberty.....	22,170
Pleasant Valley (new).....	5,060

Total six months.....\$196,540

RECEIPTS OF BRIDGE COMPANIES.	
St. Clair street.....	\$24,870
Monongahela Suspension.....	18,330
Birmingham.....	11,320
Hand street.....	8,700
Mechanics street.....	5,530
Sharpsburg.....	4,400

Total six months.....\$73,150

[Pittsburg Eve. Chron., Aug. 7.]

As a switch locomotive was performing its accustomed work at Richmond, Ala., a few days ago, two stay bolts gave way, causing the crown sheet to bulge out, thus opening the throttle valve, and rendering the engine unmanageable. At the same time an aperture was made near the fire-box, from which issued a jet of scalding steam. Fearful of an explosion, the engineer started the pump to work and jumped from the locomotive. He had scarcely reached the ground when the engine started off at a speed that has rarely before been equaled in this country. After going a short distance a crank pin was broken, and also a side rod. At every revolution the piece of rod came in contact with the cab and soon reduced it to splinters. A dispatch was sent to Centerville to leave the switch open and let the engine run off the track; but it did not reach that place, the volume of water that was being poured into the boiler causing it to come to a stand still about four miles from town. The engine was badly strained and broken, and will have to undergo thorough repairs before being used again.

The new contractors for excavating the Hoosac Tunnel are pushing the work ahead quite rapidly. During the month of June they drove the heading at the east end in 160 feet, and it is in now over a mile and an eighth. The first week in July they made 30 feet, and the next week 40 feet. The first and second enlargements are also being pushed ahead vigorously. They are having new drills made to operate on the roof, which they hope to have in operation in September, and by which they expect to increase their progress very materially. They are also erecting buildings near the mouth of the tunnel for four additional compressors, so as to give them more power. They will be run by steam. They have now 200 men at work at the east end, divided in three gangs, which work night and day continuously, resting only from midnight Saturday to midnight Monday. The central shaft is down about 700 feet, and is sunk at the rate of more than a foot a day. At the west end they have just got fairly at work, and they expect to make over 100 feet a month.

The Suez Canal.

HISTORY OF THE GREAT ENTERPRISE.

(From the Memorial Diplomatique of Paris.)

The idea of uniting the Red Sea with the Mediterranean, by means of a canal across the Isthmus of Suez, that tongue of land scarcely forty leagues broad, that unites the African peninsula to the Asiatic Continent, and thus shorten the road to the countries and seas of the South and the extreme East, does not merely date from to-day. But none had dared to face the innumerable difficulties suggested by the execution of that great idea, and which had been consigned to oblivion as impracticable, or at least productive of fruitless results, by the learned, the men of science, and by engineers of high renown and consummate experience. Above all, objections were raised to the respective and particular position of the two seas, the levels of which vary, the serious accidents which might arise from the shock of unequal waves when brought into collision, the invasion of the stronger mass of water in the weaker, the nature of the earth to be excavated, the movable sands, raised and swept off by the violent and rapid winds of the desert, etc. Speculation, otherwise so ardent, so anxious to enter upon enterprises of no less magnitude and no less hazardous, had recoiled. But there are men predestined to great works, to great discoveries; nothing daunts them, nothing can stop them, nothing conquers them, nothing can turn them from their object; they are led on by the divine idea, the light and the truth; genius will not allow them to be troubled by envy, intrigue, jealousy, distress, or the sloth of man and time. M. de Lesseps heeded the voice that spoke within him, and, strengthened by the precedents of history, if not by the absolute experiences of science, he conceived, proclaimed and executed his vast project. On the ancient soil of Egypt, the annals of which date from the origin of the world, and which has been trodden by the feet of so many different nations, among the ruins of ancient civilization, which slumber, buried under the sands accumulated by centuries and the simoon, M. de Lesseps found the vestiges of the primitive canal which was mentioned in the time of Herodotus. Commenced more than 600 years before the Christian era, by Pharaoh Nechos, that gigantic undertaking had to be abandoned for the want of labor, for in a few years more than 100,000 workmen had perished on the work. One hundred years later it was re-commenced by the Persians, who had conquered Egypt, and one of the Darius affixed his name to the glorious achievement. Falling in ruins, under the princes who succeeded to the throne, the canal was restored under the Ptolemy; but after the expulsion of the Greek dynasty it once more partially fell to ruins, until it was successively re-established by the Emperor Adrian, and several centuries later by Amrou, the lieutenant of the Caliph Omar, who took Egypt between the years 638 and 640. Under the Mussulman rule—a period of wars and upsets—civilization experienced a general eclipse; the canal was neglected, forgotten, left exposed to the fury of waterspouts and the invasion of the sands. Latterly it was difficult to discover any traces of it in the moving plains of gravel and dust. These traces, however, though indistinct, have been sufficient to fortify the convinced and persevering explorer in the plan that he had formed. Along those indications he drove his stakes, he commenced work, and after

nearly ten years of struggling, unceasing efforts, of incessant labor, he at last approached the end of his task, the most difficult part of which is finished, and the entire completion of which only requires a few months of less rough and costly work. The entire European press recently registered that memorable dispatch sent by the Viceroy of Egypt to his Minister of Foreign Affairs, then resident in Paris:

SERAPEUM, March 18, 1869.

To His Excellency Nubar Pacha, Paris:

I have just returned from visiting this course of the canal, and I was present when the waters of the Mediterranean were let into the Bitter Lakes. I re-enter Cairo full of admiration for that great work and confident of its completion. ISMAEL.

The total length of the canal is to be 100 English miles.

First of all a port of entrance and shelter had to be constructed near to Pelouse, on a sandy and shallow coast, which was effected by an artificial mole and a continuous enormous system of dredging. The jetty, against which the waves of the Mediterranean now dash, is formed of blocks of stone, weighing fifteen tons each and dressed on the spot. On that beach, a desert but a few years since, now stands a town, numbering not less than 12,000 inhabitants. The canal opens into the harbor through a cutting in the layers of sand and mud, through which it proceeds for a considerable distance until it reaches the Lake of Menzaleh, which probably was formerly a gulf of the Mediterranean, afterwards closed by the accumulated deposits from the mouth of the Nile. The shifting bottom and oft-agitated surface of this lagoon, about ten leagues in length, presented fearful obstacles to the engineers. From Kantara, northward, to Port Said, it was necessary to protect the canal, as it proceeded, by long and deep lateral ditches, and by keeping a number of steam dredgers continually at work. From Kantara to El Fendane the work consisted in the removal of clay and sand, with which a rampart was erected on the west bank, in order to guard against the sand winds coming from the desert. Then at El Gizr it was necessary to cut through rocks and mountains of sand for upwards of two miles, and in many places the cuttings were 150 feet deep. At the commencement 20,000 men were engaged on these works, the subsequent maintenance of which only required from 200 to 300. From El Gizr the canal enters the Lake of Timsah, on the shores of which now stands the pretty town of Ismailia surrounded by gardens and budding vines—thanks to the canal of sweet water—which, after the plans of M. de Lesseps, unites it with the Nile and follows the marine canal to Port Said. Then came the Bitter Lakes, whose muddy waters presented as many obstacles and difficulties to the engineers as they had met with at the Lake of Menzaleh. Fortune, however, favored them; the dredgers removed the mud and the sluices let in the flow from the Mediterranean up to Serapeum and from the Bitter Lakes to Châlout, separated from Suez only by a distance of sixteen miles at the most, consisting of a soil more easily handled, more uniform, and comparatively easier to pierce and to remove. From that moment the cuttings may be said to have been completed. Before the end of 1869 Africa will cease to be a continent, it will be an island, isolated from the other regions of which our hemisphere is composed. It will be separated from countries placed at great distances from us, which, though shak-

ing off the daily progress of civilization, will be brought nearer in such proportions as will hereafter insure them continued intercourse with other nations, the benefits of an active commercial exchange and the advantages of a fruitful and manifold industry. The route of the Suez Canal will shorten the distance to the far East by 4,300 leagues for Constantinople, 3,300 for Marseilles, 2,800 for Amsterdam, Liverpool, London and St. Petersburg, 2,700 for New Orleans and by 2,400 for New York.

By that outlet for the waters of the Mediterranean a new life is being developed for all Central Europe, for countries which hitherto were, to a certain extent, excluded from distant traffic and over-sea commerce. Austria, Italy, Greece and Turkey are called upon to become the necessary mediators in all transactions between the East and West. Already efforts are being made to profit to the utmost by the diminution of distance which will follow the cutting of the Isthmus, which, till now has opposed an insurmountable barrier to the progress of European navigation. Vessels of the heaviest tonnage can pass through the canal, which has a uniform depth of twenty-six feet and a breadth of 200 feet, which is increased to 330 feet at certain parts. Steamships can pass through by their own motive power, while the sailing vessels will be towed. Recent trials have proved exactly at what speed the canal can be passed without detriment to its banks. The powerful sidewheel tug *Alexandre*, belonging to the company, traveled over the part already finished in presence of a trial commission composed of Admiral Excelsmans, the chief officer of the transport service of the canal, and the contractors for the works, and obtained a speed of fifteen kilometres (about ten miles) per hour, without in any manner damaging the banks. The length of the canal being 100 miles, the distance between the two seas can be affected within the space of twelve hours. The question, therefore, so highly important to the postal directors of the extreme East, who are interested in passing the Isthmus as quickly as possible, is now solved. In presence of such results who would not join in the admiration so highly manifested by the Viceroy? This prince, it is true, will be the first to profit by the incalculable advantages with which the work of M. de Lesseps will surround him; where he has, by every step taken, sown the seeds of progress and civilization, of life where all was desert, inactivity, languor, waste and desolation; where at the sound of his voice, cities have risen from the sands, and where wealth and welfare, as if by enchantment, have usurped misery and drought.

Egypt, to which the canal of Port Said to a certain degree gives the keys of transit between the East and West, is called to a fertile and glorious future, and it would be an act of ingratitude on the part of him who governs it if he had not publicly rendered due justice to the promoter of the colossal undertaking. The immense results to be derived from the cutting of the Isthmus that separated two almost contiguous seas are not limited to Egypt. They must spread over the entire universe, to all the nations that share in the increasing movement of progress and civilization. As Frenchmen we must henceforth pronounce the name of our fellow-citizen with pride, so justly earned by him through the accomplishment of this humanitarian work. Do not let the momentary importance accruing to our commerce blind us; for the extent of it is more ample and fruitful. The success of M.

de Lesseps is the success of an entire race. It is the industrial rehabilitation of the Latin race that its rival, Anglo Saxon race, has so long looked upon as incapable of carrying out practical works, as incompetent to undertake anything that which appertains to the domains of frivolous arts and luxury.

Railroad Patents to August 10, 1869.

(From the American Artisan.)

93,393. — *Railway-rail Splice and Chair.*—Thomas J. Adams, Portsmouth, Ohio.

93,407. — *Railway car Coupling.*—Henry F. Breneman, Rapho Township, assignor to himself and Martin L. Greider, Lancaster county, Pa.

93,531. — *Passenger and Station Register.*—John Cornell Hackitt, Sacramento, Cal.

93,584. — *Railway Draw-bar.*—David S. Beals, Adrian, Mich.

93,602. — *Railroad-lamp.*—James M. A. Dew, assignor to himself and Oswell A. Bogen, Chicago, Ill. Ante-dated April 6, 1869.

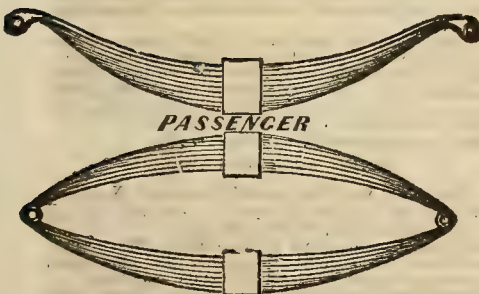
93,660. — *Railway car Seat.*—T. C. Theaker, Bridgeport, Ohio.

RAILWAY SPRINGS.

FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



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ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

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J. M. RIDENOUR, Pres't, C.&I.J.R.R. College Cor., Ind.
J. M. LUNT, Sup't, C.&I.C.R.R., Indianapolis, Ind.
L. WILLIAMS, Ass't Sup't, C.H.&D.R.R., Cincinnati.
J. H. WELLER, Ass't Sup't, D.&M.R.R., Dayton, O.
D. McLAREN, Gen'l Sup't, A.&G.W.R'y, Cincinnati
J. F. LINCOLN, Ass't Sup't, C.&I.J.R.R., Hamilton
C. W. SMITH, Gen'l. Agt. C.&I.C. R.R., Indianapolis.
Aug. 2, 1869.]

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FOR—

NEW YORK, BOSTON,

Providence, Albany,

PITTSBURG, HARRISBURG

Philadelphia, Baltimore,

And Principal Points in

NEW YORK, NEW ENGLAND

—AND—

Pennsylvania.

This Railway extends from

CINCINNATI to NEW YORK, 860 Miles.

CLEVELAND to NEW YORK, 625 Miles.

DUNKIRK to NEW YORK, 460 Miles.

BUFFALO to NEW YORK, 423 Miles.

ROCHESTER to NEW YORK, 385 Miles.

AND IS FROM

22 to 27 MILES the SHORTER ROUTE.

TWO EXPRESS TRAINS DAILY

Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS, (Sundays excepted.) Arrive Dayton 9.10 A. M.; Urbana, 10.28 A. M.; Gallion, 1.00 P. M.; Mansfield, 1.41 P. M.; West Salem, 2.47 P. M. (Dine); Akron, 4.22 P. M.; Ravenna, 5.00 P. M.; Meadville, 8.00 P. M. (Sleeping Coach through to New York); Susquehanna, 7.55 A. M. (Breakfast); Turner's, 1.42 P. M. (Dine); New York, 3.00 P. M. Connects at Ravenna with Cleveland & Pittsburg Railroad for Hudson and Cleveland; at Birmingham for Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS, daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.25 A. M.; Gallion, 4.05 A. M.; Mansfield, 4.50 A. M.; Akron, 7.32 A. M.; Ravenna, 8.16 A. M.; Leavittsburg, 9.00 A. M. (Bk't); Meadville, 11.30 A. M.; Hornellsville, 6.14 P. M. (Supper); New York, 6.30 A. M. Connects at Mansfield with Pittsburg, Ft. Wayne & Chicago Railway for Pittsburg, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities. New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through 860 Miles without Change.

Boston and New England Passengers, with their Baggage, are transferred **FREE OF CHARGE** in New York.

The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street, New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

Baggage Check'd Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY.

Which can be obtained at the Company's Offices in Cincinnati, 80 West Fourth Street. 115 Vine St., 4 Burnet House, and foot of Broadway, (Spencer House Block) and at all principal Ticket Offices in the South and South-west. L. D. RUCKER, General Sup't. WM. R. BARR, Gen'l Pass'r Ag't.

GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

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PHILADELPHIA,
NEW YORK, and
BOSTON,

WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**

From Cincinnati to **Baltimore** and but ONE CHANGE to
 or Columbus to **Philadelphia and New York.**

Ask for TICKETS and **Baltimore & Ohio R.R.**
 BAGGAGE CHECKS via

J. L. WILSON, Master of Transportation.
 L. M. COLE, General Ticket Agent.
 G. B. GIBSON, General Western Passenger Agent.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City	7 00 A. M.	9 20 P. M.
Toledo & Detroit	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail	7 00 A. M.	5 25 P. M.
Richmond & Chicago	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada	6 00 P. M.	10 30 A. M.
Hamilton Accommodation		6 45 A. M.
Richmond & Chicago	7 00 P. M.	9 20 A. M.
Hamilton Accommodation	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at
 the old office, south-east corner of Broadway and Front; or
 at the new office, corner Vine and Baker streets, and at the
 respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
 Omnibuses call for passengers.

JANUARY 5th, 1868.**Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph
 Jefferson City, and all points on the Lower Mis-
 sissippi River, and on the Illinois
 Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc
Leave CINCINNATI	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. M.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine
 Street, Corner Front and Broadway; and at Depot, Foot
 Mill Street.

C. E. FOLLET, Gen. Passenger Agent
 J. W. CONNOR, General Superintendent

Best Route to St. Louis and Chicago**INDIANAPOLIS,**
CINCINNATI

-AND-

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,
CAIRO,
CHICAGO,

Memphis, New Orleans, Springfield, Quincy
 Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West,
 North west and South-west.

ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS
 WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail	6 30 a.m.	12 20 a.m.
St. Louis and Springfield Express	3 35 p.m.	8 20 a.m.
St. Louis and Springfield Express	10 35 p.m.	3 30 p.m.
Lawrenceburg Accommodation	10 00 a.m.	2 35 p.m.
Lawrenceburg Accommodation	4 45 p.m.	8 05 a.m.

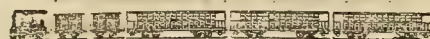
*The 10.35 p.m. train will leave Sundays, but not on Sat-
 urdays.

VIA WHITEWATER VALLEY DIVISION.

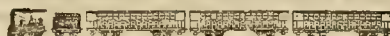
Chicago Mail	7 00 a.m.	10 00 a.m.
Chicago Express	6 30 p.m.	9 40 p.m.
Harrison Accommodation	6 10 p.m.	6 40 a.m.

Through Tickets can be obtained at the Burnet House
 Office, corner of Third and Vine; River Office, corner of
 Walnut Street and River; and at Depot, corner of Plum
 and Pearl streets. The splendid Passenger Depot of the
 I. & C. Railroad is about a mile nearer the business center
 of the city than the Depot of any other railroad, and with-
 in a few squares of the Postoffice and principal hotels and
 Steamboat landings.

J. F. RICHARDSON, Superintendent.
 A. E. CLARK, General Ticket Agent.

Philadelphia, Wilmington & Baltimore**RAILROAD!****FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**

1.15 (Express) Monday excepted, 8.15 A. M.; 11.45 A. M.
 (Express); 2.30 P. M.; 11.30 P. M. night.
 On Sundays, 4.30 A. M.; 11.30 P. M.
 Leave Baltimore for North and West 7.35 A. M.; 9.20
 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
 P. M. (Express)
SUNDAY TRAINS—Leave Philadelphia for Baltimore
 at 4.15 A. M. and 11.00 P. M. Leave Bal-
 timore for Philadelphia at 8.25 P. M.
 Leave Philadelphia for Wilmington at 11.30 P. M. Leave
 Wilmington for Philadelphia at 8.30 P. M.

The Old And Reliable Route.**Through to Pittsburg without Change.**

The PITTSBURG, FORT WAYNE & CHICAGO RAIL-
 ROAD, in connection with the Cincinnati, Hamilton &
 Dayton, and Little Miami Railroads, still continue to trans-
 port produce and merchandise between Cincinnati and
 Pittsburg, Philadelphia, Baltimore, New York or Boston,
 and all Eastern points with the greatest promptitude and
 dispatch.

For Rates, Bills of Lading, or any information desired,
 shippers will please apply to

H. W. BROWN & CO.,
 No. 27 West Third Street, Cincinnati.

W. P. SHINN, General Freight Agent.
 Pittsburg, Pa.

LOUISVILLE & CINCINNATI
SHORT-LINE RAILROAD.**Time only 5 hours**

Fare Only \$3.50—Transfer from Hotel or
 Residence to Depot, in Covington, Free.

THE SHORTEST ALL-RAIL ROUTE TO
 Louisville, Nashville, Memphis, New
 Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail	7 00 A. M.	2 30 P. M.
Evening Express	5 45 P. M.	9 00 P. M.
Walton Accommodation	4 00 P. M.	9 30 A. M.

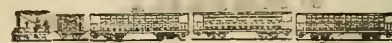
The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
 the Walton Accommodation, offer great inducements to the
 citizens of Cincinnati and Covington who wish to pur-
 chase country residences or small farms for gardening.
 This train leaves late in the afternoon, and arrives early
 next morning, giving all day to attend to business. For
 further information as to routes, low fare, &c., please apply
 at No. 1 Burnet House, or Depot, Covington, Ky.

SAML GILL, Gen'l Supt. Louisville.

CENTRAL RAILROAD

-OF-

NEW-JERSEY.

On and after Monday, May 21, 1866, three Express
 Trains will leave New York daily (Sundays excepted) vi
 Central Railway of New Jersey, and Allentown, leaving
 Pier 15, foot of Liberty Street, North River, at 7:00 a.m.
 9:00 a.m. and 8:00 p.m. On Sundays, one Express Train
 at 8:00 p.m.

Passengers by this route save 60 to 130 miles, and Two
 Hours' Time over other Lines, with but one change of
 cars to Chicago or Cincinnati, and but two to St. Louis.
 Passengers front by East by Sound Boats or by Rail in the
 morning, will have time for Breakfast before leaving the
 City. Fares always as low as by other Lines.
 State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK.

(Leave New York from foot of Liberty street, N. R.)

7:00 a.m.—CINCINNATI EXPRESS, for the West, arrives
 at Harrisburg 2 p.m., Pittsburg 12 night
 9:00 a.m.—MORNING EXPRESS, for the West. This
 train leaves New York Two Hours later than other Lines,
 and arrives at principal places West at the same time.
 12:00 m.—WAY TRAIN, connecting at Easton with
 Lehigh Valley Railway to Mauch Chunk; at Reading with
 Philadelphia & Reading Railway for Pittsburg. Arrives at
 Harrisburg at 3:30 p.m. Without change of cars from
 New York to Harrisburg.
 8:00 p.m.—EVENING EXPRESS, for the West with
 but one change to Cincinnati or Chicago, and but two to
 St. Louis. This train leaves New York Two Hours later
 than other Lines, and arrives at principal places West at
 same time.

TRAINS TO NEW YORK.

(Leave Harrisburg.)

9:15 p.m.—EXPRESS TRAIN from Cincinnati, arrives
 at New York at 6:00 a.m. next day.
 3:00 a.m.—EXPRESS TRAIN, from the West, leaving
 Pittsburg at 4:20 p.m.; passes Harrisburg at 3:00 a.m.;
 Reading at 4:49 a.m.; Allentown at 6:00 a.m.; Easton at
 7:09 a.m. Through cars from Pittsburg to New York.
 9:05 a.m.—FAST LINE, from the West, leaving Pitts-
 burg at 10:10 p.m.; passes Harrisburg at 9:05 a.m.; Read-
 ing at 10:52 a.m.; Allentown at 12:02 p.m.; Easton at
 1:10 p.m. Through cars from Pittsburg to New York.
 7:25 a.m.—WAY TRAIN, from Harrisburg, passing
 Reading at 10:40 a.m.; Allentown 12:20 p.m.; Easton at
 1:35 p.m. Through cars from Harrisburg to New York.
 Arrives in New York at 5:20 p.m.
 2:10 p.m.—FAST MAIL, from the West, leaving Pitts-
 burg at 3:10 a.m.; passing Harrisburg at 2:10 p.m.; Read-
 ing at 4:30 p.m.; Allentown at 6:00 p.m.; Easton at
 7:20 p.m. Through cars from Harrisburg to New York.
 Arrives in New York at 10:45 p.m.

H. P. BALDWIN, General Ticket Agent.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON, - - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - - THURSDAY, AUGUST 26, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

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" " six months.....	135 00
" " per annum.....	250 00

Cards not exceeding four lines, \$7 00 per annum.

WRIGHTSON & CO., Propr's.

The New and Amended Railroads from the Atlantic to the West.

It is a curious thing to see how the railroad excitement has revived in some of the States which are most largely supplied with roads, and where few more were expected even to be made. Among these are Massachusetts, New York, Virginia, Ohio and Indiana, all of which have a large proportion of railroads. We will confine ourselves here to those which are likely to affect Cincinnati, and its vicinity:

1. The largest of these undertakings is the amended route from Boston to the central West, *via* the Erie road. In New York, this is known as the Boston, Hartford, Fishkill & Erie Road. It is a good many years since this road, called then the Boston, Providence & Fishkill R. R., was devised, and several years since the part between Providence and Hartford was finished; but, there were delays and difficulties caused by a multitude of little roads and charters on the Boston end, and the obstacles in the way of making arrangements at the Hudson river. It was an old, and not a new country; there were high priced rights of way to be obtained, and old companies and charters to be combined. But these difficulties have been overcome, and the Boston, Fishkill & Cincinnati R. R. (as we should call it) will soon be a fact accomplished. We have recently been standing on the Hudson river where this great work will cross, and seen this enterprise drawing to completion, and the beginning of a new interior line which must be of great value even in Ohio. The Erie road is connected with Cincinnati by the Atlantic & Great Western, the two uniting at Salamanca, and proceeding to Cincinnati *via* Dayton.

Now, the line over which we passed, and which is a direct one to the interior of New England, is from Cincinnati *via* Dayton, Akron, Salamanca, Elmira to Newburg on the Hudson. This is the most entirely interior line in the country, and does an immense business derived almost entirely from the resources of the interior country. Here let us say, that notwithstanding a popular impression that this road is not in good order, that it is in fact one of the best regulated roads in this country. It is evidence enough of this that a car (not inferior to any) leaves Cincinnati with passengers, and takes them into New York as soon as any other road, safely and pleasantly.

But let us proceed to the new or amended line to Boston and the interior of New England—showing the route entirely. There are now no less than nine endings or branches at Boston, each of which is marked "Boston, Providence & Fishkill!" The meaning of this is, that each of the manufacturing towns around Boston mean to take advantage of the great Boston and Erie road to the West. You see, reader, that if they do not understand these things in Cincinnati, they understand them in Boston very well.

New England is hereafter to have a hard task to sustain her manufacturing establishments, with the competition which will arise soon in the West. Hence these efforts to cheapen transportation by the Hoosac tunnel, and by the Boston & Erie road. This road having bought the Norfolk county road (as we formerly stated in the Record) runs nearly direct from Boston to Hartford, Waterbury and Fishkill (Newburg) where it unites with the Erie; thence, through Owego, Elmira, Salamanca, Akron, Dayton to Cincinnati.

The great object of the East is, doubtless, to carry off manufactured goods; but that is an advantage to the West. In New York is the Erie road, one of the greatest advantages of the road is coal and lumber, immense quantities of which are carried on this route.

At Newburg we saw several dark looking schooners, lying off, that had not been seen there in former years, and on inquiring what they were doing there, it was replied, "they are coal vessels." What, is the Erie road now shipping coal to the Hudson? "Yes, great quantities." Observe that formerly the Erie did not attempt this, but now they are doing an immense business in this way. At Lackawaxen the Erie railroad comes in from the Pennsylvania Lackawaxen mines, which can supply an unlimited amount of the best coal. At Grey Court (terminus of the Newburg Branch) we saw twelve great coal trains, in a space of three miles. It is apparent, therefore, that the Erie has opened up a new business, which is likely to be very valuable. The new Boston & Erie, as we have said, is not made to carry passengers on a direct line from Boston to the West. Such line, for that

purpose merely, would not pay, hence it has varied a little to reach great manufacturing towns. There is a branch from Providence and Willimantic, and it passes through Waterbury and Danbury, two large manufacturing towns in Connecticut. Reaching the Hudson river at Fishkill, the question is, how shall it cross the Hudson? At Newburg, there opens a broad bay, nearly two miles wide. If this had been a Western river, this difficulty would have appeared almost irreparable. A bridge of some kind would have been deemed a necessity. Not so here at all. Indeed, I should think it doubtful whether a bridge would be as useful as another contrivance can here be easily made. The tide rises but three feet, hence, that is all the difference of level which is to be provided for, and that is no difficulty at all. All the ferry boats have floating hinge docks, by which carriages can go on at any stage of the water. All then which need be done is to make immense floats like ferry boats, take the trains on board and off the other side in the same way. A railroad train ferry of this kind would not delay the train half an hour, and would need scarcely any extra labor.

We mention these details to show what a grand highway—probably to be unsurpassed by any other—the Erie road is likely to become, and how much it really interests Cincinnati. When we look at such a work, we see in it a great *artificial river*, which, in the magnitude of its business, rivals the Ohio. Beginning in New England we see it carrying off the manufactures of cotton, wool, wood and tin—the great and the little things which New England sends forth, and which make her wealth. Then, in New York, we see its arms reached out to take and carry off immense quantities of coal; still further on we find it leaving coal to deal in lumber, carried off from South-western New York; then we enter Pennsylvania, and what do we see? The branch-arms of the Erie taking off unnumbered barrels of petroleum to New York; and now we enter Ohio, and think of nothing but sheep, butter and wheat, but we are mistaken. There are the iron mines of Trumbull county, and the coal of Mahoning and Summit, and here, again, are long trains loaded with the finest of coal. We pass on, and for two hundred miles roll through fields of wheat and corn, and the great land of bread and beef opens up before us; a few miles more, and Cincinnati looms up on the beautiful Ohio, and we follow, in imagination, its gently running waters, till we see the Gulf of Mexico, and the Queen of the Antilles! Is there any artificial work of man which can compare with that of an arterial railroad traversing a great continent.

2. We have only room to mention one other of the amended or continued roads. This is the Pennsylvania road to the South-west. Having completed a most admirable road through

Pennsylvania, the Pennsylvania company proceeded to get control of the two roads from Pittsburg to Columbus, called the Pan-Handle route. Then it has some arrangement with the Little Miami, by which the route is completed to Cincinnati. Next we have the direct line from Cincinnati to Louisville. Then there is the line from Louisville to Memphis, and now the bridge is building from Newport to Cincinnati. Memphis may be regarded as a central point for the whole South-west. Then, the amended Pennsylvania line, becomes a line through Cincinnati to the whole South-west. If we examine the map we shall find this one of the most direct arterial lines of road on this continent. From Cincinnati to Memphis is almost a straight line, and from Cincinnati to Philadelphia, as direct as possible, consistently with the mountain ridges.

We have mentioned these two great routes particularly, because they are the most important to Cincinnati. Other new or amended lines are going on in the central States, which show a new activity in railroad connection. The Baltimore road is completing its line into Cincinnati. The Hocking Valley road is just completed, and will, without doubt, form part of a Baltimore line from the Ohio river to the North-west. In Indiana several new roads are in course of construction, and the development of rich mines of iron and coal in that State, will, beyond doubt, require other new roads.

Thus we see the great central States full of activity, and if Providence continues to favor us with health and full crops, this country will have a career of unprecedented prosperity.

A Street-Car Seat Wanted.

EDITORS RAILROAD RECORD:—Permit inventive genius to be invoked through your columns to contrive a substitute for the hot, dusty and filthy plush abominations with which the seats of all public and most private conveyances are upholstered. The late King of Prussia displayed true refinement in banishing upholstery from his apartments; even the Orientals display, in this respect, more delicacy than we, in the general use of the light, elastic and cleanly cane seat.

For short trips the seat of open wooden slats is well enough, but for protracted journeys something more elastic is needed, possibly of wood, steel or rubber, which will adapt itself to the form of the sitter, however fearfully and wonderfully made—be self-ventilating, noiseless, and accessible for cleansing, and above all, be wholly devoid of any fibrous material, such as the *erineæ lectularius* doth delight to rear her tender brood in!

Come, gentlemen inventors, cudgel your brains!

GEO. H. KNIGHT.

CINCINNATI, Aug. 24, 1869.

Railway Officials

Will confer a favor on us, by forwarding annual reports. Statements of earnings, and items concerning their roads. Intelligence in regard to new routes will also be very acceptable.

Excursion to San Francisco.

The committee appointed by the Chamber of Commerce, of this city, to organize an excursion to San Francisco, met on the 19th inst., and decided on going *via* the Indianapolis, Cincinnati & Lafayette, Toledo, Wabash & Western, Hannibal & St. Joseph and St. Joseph & Council Bluffs railroads, to Omaha, and thence on the Union Pacific. The expense will be \$250, exclusive of provisions. A commissary car will be attached at Omaha. Arrangements will be made for about 40 gentlemen and 20 ladies, and the party will leave on Aug. 31.

The following list of names are reported as certain to accompany the excursion:

Abram Swift and wife, E. L. Johnson, Wm. Resor, wife and daughter, Robt. Hosea, wife and son, Robert Buchanan and wife, Myron Banning, M. Werk, wife and daughter, Chas. R. Fosdick, Wm. Woods, Wm. Wiswell, F. Burckhardt, Albert Mitchell, Wm. Armell, Miles Greenwood and wife, B. S. Cunningham and wife, A. McDonald and wife, Thomas Spooner, M. M. White, D. A. White and wife, Dr. Brown, W. W. Hanly and wife, C. B. Murray, B. Evans, A. S. Merrell and wife, Thos. A. Phillips, wife and daughter, A. H. Smith, wife and two daughters.

The committee rejected the proffers of the representatives of the Chicago and St. Louis lines, and selected a new route.

The importance of this trip, which is an independent one in its conception, and its bearing on our future trade, will be seen at once. And we shall look with interest for a report from the prominent business men who accompany it.

NEW MUSIC.—We have received from JOHN CHURCH, the following new pieces:

Best Society Waltz, by Shirley, a rather pretty composition.

The Girl with the Calico Dress, a Song, by Lucy E. Skinner.

Musical Monthly for August, containing eleven pieces.

That Banner of Stars, a Fourth of July Ode, by A. Faulkner, music by J. C. Meisinger, a fine, soul stirring, patriotic song.

Only, and Weary, two Songs, by Virginia Gabriel. The first is quite pretty; the second contains the wrong sentiment of life.

Cathedral Bells, words by Fannie Bennett, music by Lucy E. Skinner. A very sweet and plaintive composition.

Mobile and Montgomery Railroad.

The consolidation of the Alabama and Florida and Mobile and Great Northern Railroad Companies having taken effect on the 1st of May, 1868, no reports were made of the operations of those roads at the usual time; and this, the first annual report of the Mobile and Montgomery Railroad Company, is in lieu of the 16th annual report of the former, and the 10th of the latter company. The receipts from operations of the road for the year ending April 30, 1869, were as follows:

From passengers.....	\$165,420 49
freight.....	216,652 62
express matter.....	14,867 42
United States mail.....	18,600 00
Government transportation.....	20,000 00
other sources.....	10,381 26
	\$445,921 79

Expenses, viz:

Conducting transportation.....	\$97,061 22
Maintenance of way.....	106,732 06
Maintenance of cars.....	30,731 22
Motive power.....	80,044 80
Steamboat and ferry.....	29,525 58
Government taxes.....	4,021 44—348,116 32

Leaving net.....\$97,805 47

—a fraction under 22 per cent of the gross receipts. The President in his report says: In settlement of the various classes of the debts of both companies, there has been issued \$1,738,700 of preferred stock, and \$109,000 of first mortgage bonds. The preferred stock is conditioned to pay eight per cent per annum, provided it is made in the current year over and above all expenses and interest, but not otherwise, or, in other words, all that is made in any current year, over and above expenses and interest, will be paid to the preferred stock, until it pays 8 per cent, and any surplus in any one year, after paying 8 per cent to the preferred stock, goes to the common stock, but there is no accumulation of interest on the preferred stock.

The debts now outstanding of every class, and in the names of several companies are as follows:

In name of Alabama and Florida Railroad Company:

First Mortgage bonds and interest.....	\$385,000 00
Floating debt.....	14,510 57
Endorsed bonds and interest.....	115,000 00
Second and third mortgage and income bonds.....	94,800 00
	\$609,310 57

In name of Mobile and G. N. Railroad Co.

First mortgage bonds.....	\$38,000 00
Floating debt.....	34,039 16
	72,039 16

In name of Mobile and Montgomery Railroad Co.

First mortgage bonds.....	\$109,000 00
Floating debt.....	213,673 18
	322,673 18
	\$1,004,022 91

From this deduct the second and third mortgage and income bonds of the Alabama and Florida Railroad Co., outstanding, for which preferred stock will be given..... 94,800 00

And you have the sum of..... 909,222 91

as the interest-paying debt of the company on the first of May, 1869, against, \$2,427,000 on the first of May, 1868.

Or the debt outstanding of 909,221 91, there is in the new mortgage bonds having 20 years to run, the sum of \$109,000. Leaving yet to be arranged \$800,222 91.

Our means to do so, are the new first mortgage 8 per cent bonds for \$1,141,000 remaining on hand of the issue of \$1,250,000.

The first debts to be arranged are the First Mortgage Bonds of the Alabama and Florida and Mobile and Great Northern Railroad Companies.

The First Mortgage Bonds of the Mobile and Great Northern Railroad Co., which were originally issued for \$200,000, are all in the possession of the company, with the exception of \$38,000; these are nearly all held by parties who are known to the Board, and who will not dispose of, but hold them, to be settled by the company.

The First Mortgage Bonds of the Alabama and Florida Railroad Co. were issued in 1857, for \$300,000. They were guaranteed by the Atlanta and West Point and Montgomery and West Point Railroad Companies, and became due in 1867. Since that time \$290,000 of these bonds have been taken up by the endorsing companies, and with the past due interest, now amount to about \$375,000. They are held by the Hon. John P. King, of Augusta, Ga., as trustee for the two companies. A satisfactory arrangement has been made with him, by which we are only required to pay by the first of July \$50,000, and to pay on the first of July and January of each year, until the first of January, 1873, interest on the remaining \$325,000, by which time the principal of the debt must be paid. This enables us to retain on hand that portion of our new mortgage bonds set apart for the payment of this debt, and to exercise our discretion as to the time of sale.

It will require, to provide for the cash obligations of the company between this and the first of December next, and to meet extraordinary expenses, as follows:

To pay John P. King, trustee, on account of the first mortgage debt of the Alabama and Florida Railroad Co.....	\$50,000
To pay the first mortgage bonds of the Mobile and G. N. R. R. Co....	38,000
To provide for floating debt.....	200,000
To provide for increase of outfit and repair of road.....	100,000

Making the sum required..... \$388,000

A. & G. W. R. R.—BUFFALO, August 19.—In the Supreme Court, the suit of Samuel Marsh, as Trustee, against the Atlantic & Great Western Railroad and others, was called. Some two millions of dollars are involved. The suit was commenced for the purpose of removing the present receivers, Jay Gould and W. Archdall O'Doherty, and the appointment of a new receiver for the mortgage holders. Judge Daniels, after argument, summarily disposed of the case by refusing to appoint a new receiver or change the present management. The present receivers were ordered to pay over to Mr. Marsh, as Trustee, such portions of profits as may be due the New York branch, and George Babcock was appointed referee to determine the amount of such portions.

Chicago and North-western Railway.

The annual statement of the Chicago and North-western Railway for the year ending May 31, has just been published, and presents the following facts:

The gross earnings from all sources were.....	\$13,941,353 19
The operating expenses were.....	\$7,507,540 31
(Being 53 85-100 per cent of gross earnings.)	
The tax's were.....	416,079 51—7,924,510 82
(Making the amount of operating expenses and taxes 56 84-100 per cent.)	
The earnings, less operating expenses and taxes, were.....	\$6,016,823 37
From which should be deducted:	
Interest on Funded Debt.....	\$1,291,813 00
Less amount received for interest and exchange.....	33,086 10 \$1,258,726 90
For Sinking Fund.....	43,130 00
For rent of leased roads in Iowa.....	1,135,634 46
For dividend on outstanding stock of Chicago and Milwaukee Railway.....	\$11,233 10
Beloit and Madison Railroad.....	43 45 \$11,271 75
Leaving net earnings, over all expenses, taxes, interest, rents, and Sinking Fund payments, the sum of.....	3,566,070 26
Add surplus to credit of income account, May 31, 1868.....	20,476 97
Total amount of available net income ..	\$3,586,547 23

The exhibit of the year's business is no less gratifying as a review of the past than encouraging as a ground of expectation for the future, and furnishes the best evidence of the success and continued prosperity which have attended the efforts of the management in their control of the operations of the Company.

The condition of the Company on the 31st of May, 1869, in respect to its stock and bonds, is as follows:

Amount of Common Stock.....	\$14,500,161 61
Amount of Preferred Stock.....	16,659,097 42
Amount of Bonds.....	17,200,400 00
Total of Stock and Bonds.....	\$48,359,659 03

Three payments of the 10 per cent Equipment bonds, issued Sept. 1, 1866, have already been made as they matured, in the respective amounts of \$275,000 every six months; and two more of such payments, amounting together to \$550,000, will accrue and be paid in November and May of the current fiscal year, ending with the 31st of May next. No new issues of bonds have been made to replace the amount of these maturing bonds, nor for any other purpose; but in view of these payments, which will materially decrease the funded debt, and of the large expenditures during the year for additional equipment and permanent improvements before referred to, the Board of Directors authorized, on the 26th of May last, the issue and sale of 15,000 shares of the preferred stock of the company—as an increase of its capital—to be consummated by the delivery of the stock on the 1st of July, 1869. At the date of the last report there was outstanding of Chicago and Milwaukee Railway stock \$153,400, and of Beloit and Madison Railroad stock \$10,200, not owned by this Company. These amounts have, during the year, been reduced to \$41,090, and to \$8,214 respectively, by exchanges for the preferred and common stocks of this company; the balance still outstanding of \$19,304, is mostly in small amounts, and may be exchanged on presentation, at the option of the Company, at any time. The Company retains its interests in the Winona and St. Peter and the La Crosse, Trempealeau and Prescott Railroads; the latter is still incomplete and not in operation,

and the business of the former, which is increasing and encouraging, is conducted under a separate organization, and is not included in this report. Nearly 6,000 tons of rails have been ordered, and are being laid down in place of the lighter iron of the Iowa Division, and further renewals will be made on this and other portions of the road from time to time, to maintain the efficiency of the property in all its departments. The rolling stock and entire property are in better condition, generally, than at any former period, and the effective capacity of the road has steadily enlarged with the growth of business upon it.

New Railroads to Vicksburg.

Vicksburg, which is almost the only town in Mississippi which has commercial importance or commercial ambition, has projected several new railroads to secure the commerce of the fertile cotton country north and west of it. It lies just below the mouth of the Yazoo river, and is the natural outlet for the products of the inexhaustible bottom lands which extend from the Yazoo to the Mississippi, and which, it has been estimated, if all cultivated would produce as much cotton as the whole of the present crop of the United States.

Among the new roads projected is one from Vicksburg in the direction north by east to Grenada, the point of junction of a railroad from Memphis with the Mississippi Central. The length of the road would be 113 miles. It would run close to the Yazoo river, and have throughout its length a country which is unexcelled for fertility in the South, and now produces great amounts of corn and cotton, though only a fraction of it is cultivated. Its only outlet at present is the Yazoo river, which is navigable only to Yazoo City, about one-third of the distance, and the local traffic of the road ought to be large. But it would also serve as an important link in a through line to the North. It would form in connection with the Mississippi Central almost an air-line to Jackson, Tenn., and with other roads a very direct route to Columbus, Cairo, St. Louis, Chicago, Louisville and Cincinnati. The branch of the Iron Mountain to Belmont will give it an outlet to St. Louis over which cars may run through, and no road could compete with it as a route from the north to Vicksburg.

But Vicksburg finds west of it a field more important, perhaps, than the Yazoo Valley. A very large part of Louisiana may be made tributary to it by means of a properly constructed railroad system. Before the war a railroad was projected directly west across Louisiana to Shreveport, and 72 miles of it, to Monroe, were built. The track of this road was destroyed during the war, but we hear, it will soon be in order again. This road will form part of a straight east and west route across the continent from Savannah to San Diego.

Another road, and an important one, is projected from Vicksburg north-west to Little Rock. Still another is intended to run south-east to Amite City, on the New Orleans, Jackson & Great Northern Railroad, in order to give a direct outlet to New Orleans.

The citizens of Vicksburg interested in the Yazoo Valley Railroad have recently sent a committee to the North to work for their road. One of this committee, Col. Harper P. Hunt, was in this city this week. He reports that the committee have met with encouraging success, and that there is a good prospect that means will be secured to complete the road.

Railroad Items.

—Grand Rapids has recently been the scene of a gathering of prominent railroad men from various parts of the United States. Among them have been the leading officers of the Michigan Southern, of the Pittsburg, Fort Wayne & Chicago, of the Kalamazoo, Allegan & Grand Rapids, of the Grand River Valley, and of the Grand Rapids & Indiana Railroads, and the *quid nuncs* have had abundant occupation in speculating as to the object of the meeting. Some of its results have just made themselves manifest, and its aims can be inferred therefrom. The tracks of the "Gardner" road (the Kalamazoo, Allegan & Grand Rapids Railroad) and of the Grand Rapids & Indiana Road, have been connected at Grand Rapids, and cars are running over both lines without change. It is also announced that the projected portion of the Grand Rapids & Indiana road which lies between Grand Rapids and Sturgis, and which would thus run parallel to the Gardner road, and on the line of which large amounts of aid have been voted and considerable money expended, will not be constructed "for an indefinite time." It is further stated that the portion of the Grand Rapids & Indiana Railroad between Fort Wayne and Sturgis is under contract, and is to be finished immediately, and trains run over it regularly in connection with the "Gardner" road. These facts clearly show that the rival interests—the "Gardner" Company and the Grand Rapids & Indiana corporation—have reconciled their difficulties and united forces, and justify the conclusion that the two roads will sooner or later become parts of one line reaching from Fort Wayne to Traverse Bay and Mackinaw via Sturgis, White Pigeon, Kalamazoo, and Grand Rapids.—*Detroit Tribune* Aug. 10.

—No one question connected with railroad-ing is more important or has given more trouble, than that of the durable car-wheel. Much investigation and many experiments have been made to settle the matter. A test was made at the shops of the Pennsylvania Central Railroad at Altoona some days since, which is regarded as important in its results. The test was applied to a cast steel car wheel made under the T. B. Tarr patent. Under this patent the wheel is made of liquid steel, cast into a mould of the desired shape, and subjected immediately to a pressure of one hundred and twenty tons (hydraulic power being applied), bringing the metal to the exact shape of the mould, and pressing out all the gases, insuring a sound and solid casting. Tests were applied at the same time to several cast iron wheels of the most approved makes.

In each case the tests consisted of blows from a falling weight of 1,200 pounds. The steel wheel was broken at the 8th blow, with a fall of 28 feet, the stroke driving the hub through the plate or web of the wheel. Five iron wheels were broken—the first and second at a fall of 10 feet; the third, fourth and fifth at 7 feet. All the cast iron wheels tested broke into pieces from the hubs to the periphery of the wheel. The cast steel wheel was not injured in the least around the tread or periphery, the hub merely being driven through the plate or web of the wheel.

—The survey of the Bainbridge, Cuthbert and Columbus Railroad, has been pressed forward with great rapidity. Private subscriptions have been heavy, and I believe the expectations of the company have been fully realized. I learn that the road will be under

contract in a short time. The President and Directors of this road are men of means and ability, and, combined, form a power of strength. The well known qualifications of Maj. B. F. Bruton, the President, Hon. Wm. M. Tumlin, Secretary, and Col. C. C. Crews, General Agent and Supervisor, for financial ability and energy, insures the completion of the road at an early day.

The Camilla and Cuthbert Road, which is intended to pass through the eastern portion of the county, and through the town of Morgan, is yet in its infancy, but has some of the best men in our county and country connected with it, which gives it a fair prospect of success.—*Atlanta Constitution*.

—In the Buffalo Supreme Court, the suit of Samuel Marsh, as Trustee, against the Atlantic and Great Western Railroad Company and others, was called on the 19th. Some two millions of dollars are involved. The suit was commenced for the purpose of removing the present Receivers of the Atlantic and Great Western Railroad Company, Jay Gould and W. Archdall O'Doherty, and the appointment of a new Receiver for the foreclosure of mortgages. Judge Daniels, after argument, summarily disposed of the case by refusing to appoint a new Receiver, or to change the present management. The present Receivers were ordered to pay over to Mr. Marsh, as Trustee, such portions of the profits as may be due the New York branch, and George R. Babcock was appointed as Referee to determine the amounts of such portions.

—The St. Louis and Iron Mountain Railway is finished, and cars are running. As part of the line runs through a mountainous mineral region, the road has been a difficult one to build, and has cost \$10,000,000. It carries a large and constantly increasing quantity of iron ore, pig iron, lead, zinc ore, nickel ore, barytes, stone and lumber. The old part extending from St. Louis to Pilot Knob, 87 miles, has been built some years, and its traffic has trebled within two years, and has lately been earning at the rate of over \$11,000 per mile per annum. It will now become an important thoroughfare between the South and the North-west, and receive a large accession of through business.

—A contract merging the Iowa Central Railroad Company and the Iowa River Railroad Company has been signed. In the consolidation the latter name is retained. This road is already built from Ackley, on the Dubuque and Sioux City Railroad, to Eldora; a large share of the grading is done between Marshalltown and the latter place, and the cars expected to run that far by the last of September. The extension of the road south to Oskaloosa depends upon the people along the line, the Company having agreed to put it through if they will grade the line and make it all ready for the iron.

—The capital invested in railways in the United States is nearly four times that doing business in banks. The total of this latter is \$493,000,000,—\$436,000,000 in 1,630 National Banks; \$67,000,000 in 240 State Banks,—the earnings from which are from 10 to 12 per cent, on their capital—from \$50,000,000 to \$60,000,000. The cost of the 43,000 miles of railway in operation has been \$1,870,000,000, the aggregate earnings on which were, in 1868, \$400,000,000,—freight \$280,000,000, passengers \$120,000,000, a sum exceeding the gross annual revenue of the General Government.

—The Grand River Valley Railway was finished to Hastings, the present terminus of trains, last February. The road is now extended five miles west of that point, and the road bed is nearly completed and the road ready for ironing to Grand Rapids. About three hundred hands are laying track west of Hastings, and next week the company will begin laying track from Grand Rapids toward Hastings, meeting somewhere about eight miles west of Milledgeville, 20 miles south-east of Grand Rapids. R. H. G. Minty is General Superintendent of the line in operation.

—A meeting was held at Hubbardston on the 6th inst. to organize a company known as the Westphalia, Hubbardston & Northern R.R. Company. N. F. Rogers was chosen President, D. F. Hunter, Treasurer, and Ira Winegan, Secretary. The proposed route is from Portland, at which point it connects with the Lansing & Ionia Railroad, to Westphalia, Pewamo, Matherton, Hubbardston, and thence north, on nearly a direct line to intersect the Flint & Pere Marquette Railroad. Over \$30,000 has been subscribed to the enterprise.

—\$3,000,000 stock have been subscribed to the Bayfield & St. Croix Road, and there is a prospect of work being commenced soon, and that it will be rapidly pushed forward to completion. The contemplated road from Prescott along the St. Croix connects with this road beyond St. Croix Falls. There is also a charter for a road from this city to St. Croix Falls, so that the building of the above road would open another important railroad communication to Lake Superior—that by way of the magnificent harbor of Bayfield.

—The amount now required to prepare the bed for iron from Detroit to Lansing is \$250,000. Of this the country is relied upon for \$150,000, and Detroit for \$100,000. The road between Howell and Lansing can be built more cheaply than between Detroit and Howell. In the estimates, \$20,000 is allowed for the right of way between Howell and Lansing, but the amount required may not exceed one fourth of that sum. The total distance between Detroit and Lansing is 84 miles.

—The Flint *Globe* says of the Port Huron & Lake Michigan road: "There are now five miles of track laid from Port Huron, and the work is being pushed forward with a large force. Further on, men are getting out ties and finishing the road-bed. They have one engine paid for and on the way to Port Huron, and two more being manufactured. By the last of August they expect to run a regular train as far as Pine River.

—The report current among our country exchanges to the effect that the Cairo & Vincennes Railroad Company has failed, and that, therefore, there will be an entire abandonment of the work, is unauthorized. There was a failure to make connections in financial matters that created some alarm, but the failure was chargeable more to neglect than a want of ability. The work will go ahead as usual.—*Cairo Bulletin*.

—The West Wisconsin Railroad has recently completed another section of its road beyond Black River, which is crossed by a substantial bridge of the best character. During the coming month the line will be opened to Augusta, about 70 miles, and by next Summer or Fall through to Hudson or St. Paul, making a route 100 miles shorter than the present line from Milwaukee to St. Paul.

—Speaking of the northern extension of the Missouri Valley Railroad the *St. Joseph Gazette* of the 6th says: "Half the grading between Savannah and Maryville has been completed, and the contractors are waiting for the iron. A large force is at work on the road, and there is but little doubt that the cars will be running to Maryville by the 1st of December.

—Seven miles of the Rome and Dalton Railroad have been graded beyond Rome. This is the heaviest grading. Effort to finish the road by January. The survey of the Memphis Branch Railroad going on under Colonel Pennington. Rain needed and begun. Crops suffering, both corn and cotton, in Floyd. Cotton a half crop.—*Rome Commercial*.

—A new route is proposed for the Jonesville, Marshall & Greenville Railroad, viz: to make the crossing of the Grand River at Portland instead of Lyons, and then diverging to the east, strike Pewano, on the Detroit & Milwaukee Railway, passing thence directly north through Hubbardston and Mather-ton, and along the "water shed" to Houghton Lake.

—Judge Swayne has adjourned the Houston and Galveston Railroad case, without argument, with the understanding that the counsel having charge of the various interests agree upon a decree whereby the interests of the parties concerned may be secured until the case comes regularly before a full bench of the Supreme Court.

—The Madison (Texas) *Free Press*, alluding to the efforts of the contractors on the Little Rock Railroad, says: "St. Francis county hasn't a regular laundry, but a large party of Erin's hardy sons are ironing the country west of Madison as fast as possible. A heavy train load of iron went through yesterday."

—The Ass't Engineer, Samuel Clapp, informs the *St. Jo. Herald* that on the Mo Valley extension more than half the road bed from Savannah to Marysville has been graded, and that over 200 laborers are at work on the unfinished sections. As soon as the iron is received track-laying will commence in earnest.

—The following notice was found pasted on a large box which past over the Sioux City and Pacific Railroad a few days since; "Baggage-smashers are requested to handle this box with care, as it contains nitro-glycerine, Greek fire, gun-cotton, and two live gorillas!" The box was not broken.

—Rev. Dr. Todd, of Pittsfield, Mass., has been presented with a ring made from one of the golden spikes used in laying the last rail of the Union Pacific Railroad. The ring bears these words: "The Mountain Wedding," at which, it will be remembered, Dr. Todd was the officiating clergyman.

—The Directors of the Teho & Neosho R. R. have appointed E. C. Smith, to survey the route beyond Sedalia, and Col. H. E. Barnes, to survey the northern portion of the line from Sedalia. The board expect to have the whole line under contract by the first of October.

—About fifteen miles of the Lexington & St. Louis Railroad is ready for the track. The line extends from Lexington to Sedalia, 52 miles. It is also under contract to be completed by the 1st of January next. It will be a feeder of the Missouri Pacific.

—The survey of the Memphis Branch Road will begin at Rome Road, cross the Oostanaula above the junction, and run down North side of Coosa river. C. M. Pennington, Chief; Mr. Razer, of Pennsylvania, 1st Assistant and H. Carlier, 2d Assistant.—*Rome Courier*.

—The contract for building the Kalamazoo & South Haven Railroad has been awarded to Messrs. Singer Talcott & Co., of Chicago. From fifteen to twenty miles will be completed by winter; the balance by July 1, 1870. The road is 38 miles long.

—The *Allegan Journal* states that the contracts for grading the Allegan & Holland Railroad have been let to Goss, Warner & Co. The distance from Allegan to Holland City, by the surveyed route, is 22½ miles.

—There is a movement to consolidate the various projected railroad lines from Allegan to Holland and thence along the lake shore through Grand Haven and Muskegon to Grand Traverse into one organization.

—Audrain county has subscribed \$100,000 to the South Branch of the Louisiana & Missouri River Railroad, or as much as will grade, bridge and tie the road from Mexico to the Callaway county line.

—An election was held at Evansville, on the 5th, on a proposition to appropriate \$242,000 to aid in constructing a railroad into southern Illinois. The whole vote cast in the city was 2,643. For the appropriation, 2,241; against, 402.

—The Jackson *Patriot* says the Fort Wayne, Jackson & Saginaw road will be completed to Reading, nine miles south of Jonesville, in time for the State Fair.

—A European correspondent speaks of the good time coming when a traveler will have only to stick a shilling stamp on his hat and travel to whatever point he desires.

—The city of Quincy voted a subscription of half a million, on the 7th, to the Quincy, Missouri & Pacific Railroad. The vote was almost unanimous.

—In 1860 there were but 402 miles of horse rail in the United States. It is estimated that there are at least four thousand miles to-day.

—By the 1st of September there will be rail communication between St. Louis, Mo., and Atchison, Kansas, without change of cars.

—Rolls C. Link & Co., of Philadelphia, have subscribed \$7,000,000 for the Norfolk and Bristol Railroad.

THE NORTHERN PACIFIC RAILROAD PARTY.—August 18.—A dispatch from Helena, Montana, says the Canfield Northern Pacific party arrived from Puget Sound, Oregon, and Walla-Walla. They traveled with a pack train from Walla-Walla, via Pen d'Oreille Lake, in twenty-seven days. They express themselves highly pleased with the country and the entire practicability of a line for a railroad. They examined two passes of the Rocky Mountains, one by an easy grade and elevation not exceeding 5,000 feet above the sea. They left for Fort Benton, to examine Cadotte and other passes north, and will return in about a week.

THE QUESTION OF A CENTRAL LINE OF NAVIGATION FROM THE WEST—GOVERNMENT AID DESIRED.—WHITE SULPHUR SPRINGS, W. VA., Aug. 19.—The Committee of the National Board of Trade, on the subject of a central line of navigation from the West to Hampton Roads, has been in session here four days, and will probably conclude their labors to-morrow. They have given a searching investigation to every branch of their subject. Every part of the report prepared by Mr. Hughes has been carefully matured. It will show the railroad and navigation systems of the valley, to the aggregate of 34,000 miles in length. These systems are stimulating production in a powerful degree. The railroads crossing to the East are overtaken; the Northern water route is closed by ice five months in the year; the Southern water route is taxed with the heavy insurance on the Gulf and high pilotage on the lower Mississippi. Both water routes lead around the nation, and would be blockaded in war. A direct central water line from the mouth of the Ohio to the central part of Norfolk would afford cheap transportation to market for Western produce, and bring cheap food to Eastern manufacturers in war as well as peace. Water-carriage would bring wheat from as far west as Fort Benton by its cheap cost. The report gives a history of the Virginia Canal, and estimates of the cost of completing it with a capacity for boats of 280 tons. It recommends this enterprise as a favorable object of aid from the National Government.

NEW YORK STREET RAILROADS.—In the last five years in New York, fifty new street railroads have been built, costing \$25,000,000. Its entire system cost \$35,000,000.

The great city transportation problem in New York, now agitating the Yankee inventive genius, is that means must be discovered for carrying 100,000 persons per hour 10 miles in 30 minutes at 3 cents. The working classes, who live in the suburbs of the city, city life being too expensive must get to their work from 8 to 10 o'clock in the morning, and home from 4 to 6 in the evening. The present system of horse cars is wholly inadequate to meet the exigency, and carry them. The need is to provide street railroads that will do it. At present only 15,000 an hour can be accommodated.

The receipts of five roads last year were \$31,089,127. The receipts of the whole are estimated at \$100,000,000, or one third of the whole receipts of the entire railroad system in the State. The profits amount to over 25 per cent, almost equal to national banking.

It averages seven animals to the car. To run fifty cars, costs \$1,000 a week, employing seventy persons Conductors and drivers wages are \$2 daily—hours of work twelve.

The yearly increase of travel over the present year, is 8 per cent. The fare is 6 cents.

JAMAICA.—A new line of railroad has recently been opened in Jamaica, increasing the aggregate length of all the roads to twenty-two miles. The opening of this road was celebrated by a grand banquet, attended by the governor, the principal officers, and the most prominent men of the colony. Jamaica has hitherto been very careless about the communication with the interior; and the completion of this new road is considered to be a hopeful sign of renewed energy. When the products of the island can be brought cheaply to the seaports it is anticipated that the commerce will revive, and that Jamaica will recover a large share of her past prosperity.

The Salt Region of the North—New Discoveries.

The *Detroit Tribune*, of August 16th, contains the following from Alpena, Michigan:

"After drilling to the depth of 1,110 feet, we reached the great salt basin that underlies the whole of the lower peninsula of Michigan and at the depth of 1,125 feet, the depth we have now reached, the brine is 80 per cent., and continues to grow stronger as we advance. When 1,000 feet were reached and no appearance of brine manifested itself, the company had serious thoughts of abandoning the project; but many of the citizens who had not previously subscribed assisted in raising a fund sufficient to put the well down 500 feet further, if necessary. Four more wells will be started this fall and winter. At the depth of 600 feet a fountain of beautiful mineral water, equal in some respects to the Saratoga waters, was opened, which continues to flow over the top of the well at a powerful rate. The salt produced from the brine is very white and pure, and evidently quite free from all impurities. The well will be put down perhaps 50 feet deeper, when it is thought strength and quantity of brine sufficient for the most favorable manufacturing purposes will be reached."

The same paper, of Tuesday, says:

It is not generally known that salt is being manufactured to some extent at Goderich, Ontario, and that, too, under very favorable circumstances. The discovery of brine was accidental, and was made while boring for oil. The wells, which are eight in number, average from 1,000 to 1,117 feet deep. It is said that they passed through about 80 or 90 feet of drift mass, then through about 960 to 970 feet of clayish limestone rocks and 30 to 40 feet of brine bearing shales, penetrating finally 15 feet in the rock salt. The brine is perfectly clear and colorless, and no trace of peroxide of iron is found. The Goderich brine exceeds the Saginaw by 25 to 30 per cent. in quantity of salt held in solution, demonstrating, therefore, remarkable strength. The salt, also, is quite free from impurities, there being a fraction less than three per cent. of these. The geographical character of the rocks which inclose the salt resource at Goderich, are the same which outcrop at Syracuse—the shales of the Orondaga salt group. The salt manufacturing is in the hands of joint stock companies, mostly residents of Goderich. Four of the six companies in operation are manufacturing salt in kettle blocks—averaging about 45 barrels per day. Mixed wood costs above \$2 50 per cord. The objection to the manufacture of salt in kettles is the incrustation that forms upon the bottom and sides of the kettles, from the great strength of the brine forming thereby, within 24 hours, bottoms several inches in thickness, and causing much waste of heat and salt. Two pan blocks are now in successful operation, making 75 barrels per day. Partly through a lack of this enterprise and partly through the protection policy of our Government, it is believed that we never will have a very strong competition in Goderich as a salt producing territory.

A MEXICAN RAILROAD TRAIN ROBBED.—MEXICO, Aug. 14 (via HAVANA, Aug. 20).—A freight train loaded with merchandise belonging to Walsh & Co., was attacked on the Vera Cruz Railroad, near Parras, and plundered. The loss is estimated at \$50,000.

The Textile Fabric Exposition.

It has been ascertained that there are now about 3,500 cotton and woolen manufactories in the United States, distributed as follows:

Alabama.....	11
California.....	6
Connecticut.....	284
Delaware.....	19
Georgia.....	47
Illinois.....	133
Indiana.....	129
Iowa.....	60
Kentucky.....	24
Kansas.....	7
Maryland.....	35
Michigan.....	55
Missouri.....	27
Vermont.....	68
Wisconsin.....	69
Mississippi.....	14
Maine.....	100
Massachusetts.....	593
North Carolina.....	40
New Hampshire.....	150
New Jersey.....	116
New York.....	365
Oregon.....	8
Ohio.....	175
Pennsylvania.....	517
Rhode Island.....	292
South Carolina.....	40
Tennessee.....	40
Virginia.....	24

To show the marvellous progress of manufactures West, the States of Ohio, Michigan, Indiana, Illinois, Wisconsin, Iowa, and Minnesota, in 1860, show 295 mills, worth \$1,616,740, using \$1,161,250 material, with \$452,060 as the cost of labor, while, in 1868, they show 557 mills, worth \$5,448,000. The largest advance has been made in Ohio, she numbering 172 mills.

Manufacturing can be done 25 per cent. cheaper in Chicago than in Lowell.

Illinois surpasses in shawls; Ohio in jeans and flannels; Indiana in her cassimeres. The Tennessee sheetings and shirtings were marvellous.

To Georgia and Ohio, belonged the honor of making the largest and finest display of fabrics, Georgia's cotton goods were matchless.

STRENGTH OF IRON RAILS.—An English patent has been granted for a method of testing iron rails for railroads by subjecting them to a pressure of a rolling mass, equal to a Maximum to which they are liable in actual use. A circular track of about fifty or one hundred feet diameter is made up of the rails to be tested, which are bent, after rolling, to the required curve. In the center of this circle is placed a vertical spindle, moved by steam or water power, from which pass a number of arms reaching over the track, over which they carry an annular framework, in which a number of heavy rollers are placed. These rollers, which weigh over ten thousand pounds each, are moved around the track with a velocity equal to that of a railroad train, which is kept up for a suitable length of time. The test can be modified in various ways, so as to impart to rails all the trials to which they would be subjected in a railroad, as a sliding and thumping, instead of an evenly rolling one, etc. The number of rollers is to be so adjusted as to produce no injurious heating of the rails by the velocity imparted.—*Jour. of Com.*

Mr. Washington Roebling.

Mr Washington Roebling succeeds his father as Chief Engineer of the New York and Brooklyn bridge. We extract the following from the report of the proceedings:

"By a report of the Executive Committee, submitted at a former meeting, the engineer had been appointed to look over the plans and specifications, but subsequently, in view of the importance of the undertaking, it was resolved to appoint seven engineers of the greatest experience. Their names were: Messrs. Horatio Allen, Steele, Sensesl, McAlpine, Latrobe, Kirkwood, and Col. Adams. This body had held meetings for two months, and had highly eulogized the plan submitted by Mr. John Roebling, who was present on each occasion. That plan was finally put before the Board of Government Engineers, and, although there had been all kinds of opposition, that Board was united in their opinion of superiority. Mr. Roebling had employed, as his assistant, his son, a young man of great promise, then residing in Cincinnati, and only 33 years of age. Previous to the death of Mr. Roebling, Sr., that gentleman had frequently told the speaker that he was the only living engineer who could carry the work through to a successful termination. His son had since gone to Europe for the purpose of examining all the works now going on, or which have been finished, of a character similar to that proposed for the bridge. All who knew young Mr. Roebling spoke of him in the highest manner, and extolled his abilities as an engineer."

LAKE SHORE AND MICHIGAN SOUTHERN RAILROAD.—The consolidation is now complete, and one company, the Lake Shore and Michigan Southern Railway Company, owns a line of railroad extending from Chicago to Buffalo. The road now owned by the company consists of the following lines and branches:

	Miles.
Chicago to Buffalo, via Air Line.....	529
Toledo to Elkhart, via Adrian and White Pigeon.....	142
Jackson Branch.....	44½
Adrian to Monroe.....	33½
Toledo to Detroit.....	54
White Pigeon to Constantine (leased)...	4
Branch to Graytown, from Junction 8 miles east of Toledo.....	9
Elyria to Sandusky.....	35
Total.....	856

—The Scientific American says that the yearly coal production of the world is 160,700,000 tons; 9,590,000 iron; 79,050 copper; 246,365, lead; also 459,883 pounds of gold, and 2,863,000 of silver. Over half the coal, half the iron, and third of the lead, come from Great Britain; Australia, third of the copper North and South America, six-sevenths of the silver; Australia and America, one-half the gold.

—The aggregate amount of Exports (exclusive of specie) from the port of New York to foreign ports for the week ending Aug. 17, 1869, was \$4,568,552.

M S. & K. C. R. R.—MEMPHIS, August, 19. —Delegates leave to-morrow, to attend the Memphis, Springfield & Kansas City Railroad Convention, at Springfield, on the 25th.

—Positively, on the 17th of November, the Suez Canal, in its completed dimensions, its whole extent, and its entire depth of eight metres, will be opened for all navigation. During 17th, 18th, 19th, and 20th, no ship dues will be levied, but after the 21st of November 10¢ per passenger and 10¢ per ton for goods will be charged.

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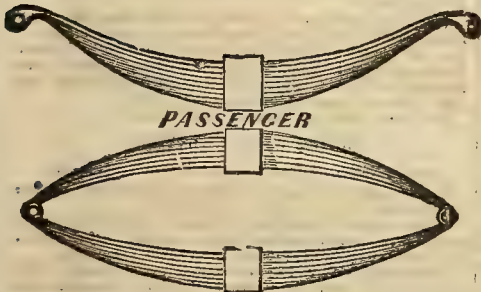
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Pennsylvania.

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CLEVELAND to NEW YORK, - 625 Miles.
DUNKIRK to NEW YORK, - 460 Miles.
BUFFALO to NEW YORK, - 423 Miles.
ROCHESTER to NEW YORK, - 385 Miles.

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7.00 A. M., CINCINNATI EXPRESS,
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9.45 P. M. LIGHTNING EXPRESS,
daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.25 A. M.; Galion, 4.05 A. M.; Mansfield, 4.50 A. M.; Akron, 7.32 A. M.; Ravenna, 8.16 A. M.; Leavittsburg, 9.00 A. M. (B'kfst); Meadville, 11.30 A. M.; Hornellsville, 6.14 P. M. (Supper); New York, 6.30 A. M. Connects at Mansfield with Pittsburg, Ft. Wayne & Chicago Railway for Pittsburg, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities.

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Toledo & Detroit	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail	7 00 A. M.	5 25 P. M.
Richmond & Chicago	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Rich-		
mond	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada	6 00 P. M.	10 30 A. M.
Hamilton Accommodation		6 45 A. M.
Richmond & Chicago	7 00 P. M.	9 20 A. M.
Hamilton Accommodation	7 00 P. M.	7 55 A. M.

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	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. & M.	6 10 a.m.	11 30 p.m.	12 00 m.

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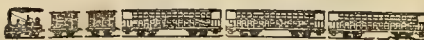
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Indianapolis and Lafayette Mail	6 30 am	12 20 am
St. Louis and Springfield Express	3 35 pm	8 20 am
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*The 10 35 pm. train will leave Sundays, but not on Sat-
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Chicago Mail	7 00 am	10 00 am
Chicago Express	6 30 pm	9 40 pm
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Leave Baltimore for North and West, 7.35 A. M.; 7.20
A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
P. M. (Express)SUNDAY TRAINS.—Leave Philadelphia for Baltimor
at Washington at 4.15 A. M., and 11.00 P. M. Leave al
timore for Philadelphia at 8.25 P. M.Leave Philadelphia for Wilmington at 1.30 P. M. Leave
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Evening Express	5.45 P. M.	9.00 P. M.
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The 7.00 A. M. train runs daily.

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CENTRAL RAILROAD

-OF-

NEW-JERSEY.On and after Monday, May 21, 1866, three Express
Trains will leave New York daily (Sundays excepted) vi
Central Railway of New Jersey, and Allentown, leaving
Pier 15, foot of Liberty street, North River, at 7:00 am
9:00 a. m. and 12:00 p. m. On Sundays, one Express Trai
at 8:00 p. m.Passengers by this route save 60 to 130 miles, and Two
Hours' Time over other Lines, with but one change; vi
cars to Chicago or Cincinnati, and but two to St. Louis.
Passengers front de East by Sound Boats or by Rail in the
morning, will have time for Breakfast before leaving the
City. Fares always as low as by other Lines.
State-room Sleeping Cars on Night Trains.**TRAINS FROM NEW YORK.**

(Leave New York from foot of Liberty street, N. R.)

7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives
at Harrisburg 2 p. m., Pittsburg 12 night.9:00 a. m.—MORNING EXPRESS, for the West. This
train leaves New York Two Hours later than other Lines,
and arrives at principal places West at the same time.12:00 m.—WAY TRAIN, connecting at Easton with
Lehigh Valley Railway to Mauch Chunk; at Reading with
Philadelphia & Reading Railway for Pottsville, arrives at
Harrisburg at 8:30 p. m. Without change of cars from
New York to Harrisburg.8:00 p. m.—EVENING EXPRESS, for the West with
but one change to Cincinnati or Chicago, and but two to
St. Louis. This train leaves New York Two Hours later
than other Lines, and arrives at principal places West at
same time.**TRAINS TO NEW YORK.**

(Leave Harrisburg.)

9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives
at New York at 6:00 a. m. next day.3:00 a. m.—EXPRESS TRAIN, from the West, leaving
Pittsburg at 4:20 p. m.; passes Harrisburg at 3:00 a. m.;
Reading at 4:49 a. m.; Allentown at 6:00 a. m.; Easton at
7:09 a. m. Through cars from Pittsburg to New York.9:05 a. m.—FAST LINE, from the West, leaving Pitts-
burg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Read-
ing at 10:52 a. m.; Allentown at 12:02 p. m.; Easton at
1:10 p. m. Through cars from Pittsburg to New York.7:25 a. m.—WAY TRAIN, from Harrisburg, passing
Reading at 10:40 a. m.; Allentown 12:20 p. m.; Easton at
1:35 p. m. Through cars from Harrisburg to New York.
Arrives in New York at 5:20 p. m.2:10 p. m.—FAST MAIL, from the West, leaving Pitts-
burg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Read-
ing at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at
7:20 p. m. Through cars from Harrisburg to New York
Arrives in New York at 10:45 p. m.

H. P. BALDWIN, General Ticket Agent.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON,
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, SEPTEMBER 2, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
" " per month.....	5 00
" " six months.....	15 00
" " per annum.....	25 00
" column, single insertion.....	7 00
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" " six months.....	55 00
" " per annum.....	110 00
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" " six months.....	135 00
" " per annum.....	250 00

Cards not exceeding four lines, \$7 00 per annum.

WRIGHTSON & CO. Prop'rs.

Manufactures and Railroads in Ohio.

We have recently remarked on the Exhibition of Textile Fabrics in Cincinnati. That brought out certain facts which were comparatively unknown, and which will be hereafter of immense importance. This was the great number and perfection of woollen and cotton manufactures in the West and South. We had reasoned in our minds previously on this subject, and come to a conclusion which proved to be true. That such was the greater abundance and cheapness of all the raw materials in the West, that soon, if not now, manufactures must rise in the West to be of equal, if not greater importance than they are now. This is evidently coming to be the case. It was amply proved by the Textile Exhibition. This rise of manufactures will be specially great in those States which are central, those especially of the Ohio Valley—Ohio, Kentucky, Indiana, Illinois and Missouri—for in these States the raw materials, coal, iron, wood and wool, are absolutely exhaustless. The importation of some foreign plants and animals will also add greatly to these materials. The introduction of the Mulberry will give us silk. The tea-plant will grow us tea, and these plants are soon to be introduced, although it may not be immediately.

But there are other elements which will be introduced immediately, and be of vast value. Two years since we met with a gentleman in Ohio, who had a flock of Angora goats, or sheep, which are doing well. We now see it stated, that there are 2,300 of those goats in Kentucky, and also a considerable number in Ohio. The fine wool of these animals is the raw material of the celebrated Cashmere shawls, and there can be no doubt we shall soon make the genuine Cashmere shawl, and

just as beautiful as those brought from India. Why not also introduce the long woolled sheep of South America? We import a great amount of the long-staple wool. Why not raise it ourselves, especially in such States as Kentucky and Tennessee? The price per pound is low, but on the other hand these sheep produce a great deal more per head, and probably they will be even more profitable than the fine woolled sheep.

Thus we see how very easy it will be to introduce all the elements which exist in temperate climes into the Ohio Valley, and thus make it the very center, not only of vegetable productions, but of all the animals necessary to manufactures. Let us now turn more especially to the peculiar interests of Ohio.

In a recent visit to the East, we were struck by the fact, that the productions—the real source of wealth—in Ohio were exactly those of which we had a great surplus; a surplus which might be indefinitely extended, and which were needed in other parts of the country and indeed in the world.

In the town of Fishkill, on the Hudson, we found quite a splendid church building of stone, and the ornamental stone of the building came from Ohio. It was from the stratum of the Waverly sand stone, which begins in Kentucky, on the Ohio river, and runs through the Scioto valley, thence verges to the East and comes out on the Western reserve. This stone, we presume, came from Portage or Summit county.

Again, we saw a gentleman who was interested in the gas works, at Albany, who said that their company had contracted for 14,000 tons of Ohio coal! This came by way of Cleveland, and was probably the coal of Summit or Mahoning counties. This brings us to another fact, that at Akron, we met long trains of coal cars, which coal was, apparently, the finest we ever saw—bituminous of course. In the North-east of the State are immense bodies of coal of the finest quality; and there are factories rising up in every direction, and giving a new life to the country.

There is no one particular in which Ohio has advanced so rapidly, as in manufactures. The census tables show that from 1840 to 1850, the increase of manufactures was very great. Some of the particulars of this increase are as follows:

	1850	1860	Increase per cent
Capital invested.....	\$29,019,538	\$37,293,303	.96
Raw materials.....	34,677,137	69,606,270	1 0
Hands employed.....	51,409	75,802	.24
Annual wages.....	13,467,660	22,302,909	.70
Annual value of products.....	62,607,839	121,691,148	.95

According to this, the actual cost of the products amounted to this:

	1850	1860
Cost of capital (6 per cent.).....	\$1,740,000	\$1,400,000
Raw materials.....	34,677,137	69,606,270
Wages.....	13,467,660	22,302,909
Total cost.....	\$49,884,797	\$93,509,279
Value of products.....	62,607,839	121,691,148
Apparent profits.....	\$12,723,042	\$28,181,869

It will be observed, that there are two important elements of cost left out—rents and wear and tear. Perhaps both of these may be balanced by the 6 per cent. interest on capital we have added in. In that case the actual profit on capital in 1840 was 40 per cent, and in 1850 was 45 per cent. The census tables for 1840 made the profit 49 per cent, but this was obviously wrong, for no allowance was made for rent, repairs, etc.

One thing in the above table is quite remarkable: that in 1850 the average wages of each individual was \$260, but in 1860 was \$300. No doubt it was greater in both instances, but the table shows that the rate of wages had advanced, and we have no doubt that the result of the next census will show the same thing, after making due allowance for the discount on paper money. Some differences in the manufacturing results of different counties may be seen, as follows:

	1850	1860
Cuyahoga.....	\$ 883,924	\$6,973,737
Mahoning.....	536,400	2,139,515
Summit.....	1,833,206	1,528,072
Trumbull.....	489,756	1,143,068
Hamilton.....	20,790,743	46,995,962
Montgomery.....	2,002,076	4,425,374
Jackson.....	230,549	608,297
Vinton.....	62,308	311,130
Lorain.....	1,996,704	1,160,068
Meigs.....	446,770	1,629,453

The extraordinary growth of manufactures in Cuyahoga, Mahoning and Trumbull counties is due, mainly, to the development of the coal and iron mines in that region, and we shall be much mistaken if the census tables of 1870 do not show a much greater increase. In truth, the mining and manufacturing industry have but just begun, and the future, we doubt not, will show some astonishing results.

We have made this notice to show both the great resources of this State, and that manufacturing here is in itself exceedingly profitable. Indeed, the statistics of the several States shows conclusively that manufacturing is more profitable in the new than in the old States. The reason of this is obvious: that both the raw material and the breadstuff, which are the support of life, are cheaper here. In comparing the prices of bread and meat in New York and Cincinnati, and these may be taken as centers of food and labor, it will be found that they are fully 30 per cent. higher in the city of New York than they are in Cincinnati, and the difference is still greater as we go farther West.

If now we should take Cincinnati, Indianapolis, Evansville or St. Louis as points for manufacture, we should find nearly the following differences: food 30 per cent. cheaper than in New York; iron and coal 20 per cent. cheaper, and cotton and wool 5 per cent. cheaper.

Looking now to the success of manufactures, these differences are decisive; they are enough to make a great difference in profit. The great obstacle in the way of a rapid

growth of Western manufactures is the want of surplus capital, and for that we must wait until time produces it. But if the real facts, showing the profits of manufactures here were known where capital is, capital would speedily come here.

CUTTING RATES.—There are signs of a return to reason, on the part of the through lines, and that they will resume the old order of things soon. A healthy competition is well enough, but such throat cutting as has been indulged in lately is senseless.

Meantime, the dealers have laid in stocks to the extent of their last dollar, and the probability is that the railways will have ample leisure to repair the damages caused by over strain.

TRAVTWE'S ENGINEERING WORKS.—Attention is called to the advertisement of these valuable books. The Engineer will find them to be of great service. The present edition has been greatly improved.

Grand Rapids & Indiana Railroad.

We are in receipt of the Annual Report of the President of the above road, from which we excerpt the following:

"At the date of the last annual report, twenty miles of road had been completed, extending from Bridge street in the city of Grand Rapids, to the village of Cedar Springs, and had earned, by their operation under the construction contract, then existing with E. B. Talcott and associates, \$22,707.13, according to the account of earnings rendered by the contractors; and work was in progress under that contract between Fort Wayne and Grand Rapids.

The hope of the directors then was to complete the section of road from Kalamazoo to Grand Rapids during 1868, and the entire line between Fort Wayne and Big Rapids, on the Muskegon river, 195 miles north of Fort Wayne, by the close of 1869.

This hope was frustrated by the refusal of the directors of the Pittsburg, Fort Wayne & Chicago R. R. to purchase \$1,500,000 of the bonds, as agreed, and the contractors suspended work.

"In December the twenty miles of completed road between Grand Rapids and Cedar Springs were accepted by Governor Crapo, as completed in accordance with the acts of Congress, and the company's right to the adjacent lands was thus established.

"Early in January a suit was brought in the Circuit Court of Kalamazoo county in favor of Fisk, Chafee and others, judgment creditors of the company, residing at Allegan, and Leonard Correll, N. P. Roberts and E. N. Faxon, of Grand Rapids, claiming to be stockholders, alleging the company's insolvency, and praying for an injunction and Receiver,

and a dissolution of the corporation. An injunction was granted without notice or a hearing.

"Before a hearing of the motion for a Receiver, the judgment debt, to the amount of about \$30,000, was paid, and the basis of the suit thus destroyed. The object of the suit was to destroy your company, and it was instigated and controlled by parties in the interest of the Allegan road.

"Under these circumstances it became apparent that there was no adequate protection to all the interests in your company, except by placing over it the shield of the law. A suit was therefore instituted in the United States Circuit Court for the Western District of Michigan, on the 19th of January, by a holder of the first mortgage bonds of January 2d, 1860, in behalf of himself and all other bondholders, and Jesse L. Williams, of Fort Wayne, with the assent of the company and without prejudice to its rights, was appointed Receiver, and the road and its assets in Michigan placed in his possession. A similar and auxiliary suit was soon after brought in the United States Circuit Court for the District of Indiana, with a similar result, as to the road and its assets in Indiana."

An attempt was then made before the Legislature to break up the road, and two more injunctions granted against it. The result of the appeal to the Legislature was the introduction of two bills, one entitled: "A Bill to forfeit certain lands, privileges and franchises heretofore granted to the Grand Rapids and Indiana Railroad Company, and to confer the said lands, privileges and franchises to the Michigan Northern Railroad Company," and the other "to confirm to the Grand Rapids and Indiana Railroad Company certain lands granted to said corporation in aid of the construction of its railroad." The friends of the road all along its line in Michigan, came to its relief by earnest and timely petitions and remonstrances against hostile legislation.

"Upon these two legislative bills—one for the destruction, the other for the preservation of the company—a full hearing was had before the Committee of the Senate, in which the bills had been introduced, and the result was the introduction and passage, on the 16th March, of a bill entitled 'A Bill to provide for the transfer of the right, title and interest of the State, in and to certain lands granted by Congress to aid in the construction of a railroad from Grand Rapids to Traverse Bay.'

This bill made it obligatory that the 20 miles of road required to be constructed by July 1, 1869, should be North of Cedar Springs, a wilderness having few facilities of access either for men or supplies. The injunctions were dissolved, and the United States Receiver left in command. Work was commenced about the middle of April, and on the 29th June the Governor was notified of the completion of the required section.

"On the 1st of May, a contract was made with the Continental Improvement Company of Pennsylvania, for the construction and equipment of the road from Fort Wayne to Little Traverse Bay.

"The Continental Improvement Company, is fully empowered by its charter to carry out its undertaking with your company. It is organized with a capital of \$2,000,000, all taken by responsible subscribers, embracing in their number men of undoubted wealth and national reputation in railway management, and as financiers and business men. General George W. Cass, President of the Pittsburg, Fort Wayne & Chicago Railway Company, is President of the Continental Improvement Company, and his reputation is a guaranty of its efficient management. One-half of the capital stock has already been paid in, and applied to the construction of your road, and payment of the company's debts. The contracting company has been organized and is controlled by the representative men in the management of the Pennsylvania Central and Pittsburg, Fort Wayne & Chicago Railway Companies, and the effect of the contract will doubtless be to ally your road permanently to the line of railway now extending under one control from Philadelphia to Chicago. The power and influence of this great line will be beneficially felt in the construction and management of your road and in all the business interests of Western Michigan.

The substance of this contract is, that the contracting company, in consideration of the furnishing right of way, depot grounds, and materials, and the building and equipment of your road as a first-class railway to the satisfaction and acceptance of the Governor of Michigan, from Fort Wayne to Little Traverse Bay, a distance of 320 miles, within the time and manner required by existing laws, and with all reasonable diligence; and the payment, upon an assignment to the contracting company of such debts of the company as by the terms of the contract it is required to pay, or shall voluntarily pay, shall receive the company's assets applicable to construction, the lands covered by the grants, \$8,000,000 of first mortgage bonds, and the amount yet unissued of the \$2,800,000 of capital stock, and shall be entitled to operate the road during construction and to receive its revenues; the contracting company assuming the payment of interest on the \$8,000,000 of bonds, the expenses of operating and maintaining the road, and the expenses attending the organization and management of the Railroad Company, and on the final completion of the contract surrendering the road to the company in good condition, free from any debts created since the contract, except the mortgage bonds issued to the contracting company.

"The effect of this contract, if performed in good faith, will ultimately be to make the con-

tracting company virtually the controlling owners, as stockholders, in the Railroad Company, but their rights, as stockholders, will have no preference or priority over those of other *bona fide* stockholders.

"The money, iron, equipment and other material, for the twenty mile section first completed, have been furnished by the Continental Improvement Company under the protection of the Receivership, and to facilitate and protect the further progress of work northward of Grand Rapids, the powers of the Receiver have been extended to the construction of another twenty miles during the present year under an order of similar tenor with that first made. Whether the authority of the Receiver will need to be continued or extended beyond the completion of the second section of twenty miles, will depend on the progress made in adjusting the financial affairs of the company, so as to supersede the necessity of a receivership.

"The Directors know of no substantial reason why the work should not now progress with reasonable diligence on all points of the line from Fort Wayne to Grand Rapids, so as to secure the operation of the road between these points during this year. The sooner the road is built to Fort Wayne, on its own line, the sooner will it afford a remunerative traffic. They are not unaware that much anxiety is felt at the delay of the work south of Grand Rapids, and that fears are expressed that the located line from Fort Wayne to Grand Rapids *via* Sturgis, and on the direct line between Kalamazoo and Grand Rapids may be changed, or abandoned; and a combination formed with the owners of the Allegan line. Such anxiety and fears are believed to be groundless, and the Directors rely with confidence upon the performance in good faith of all the terms of the contract, and the building of your road as it has been located, as rapidly as sound economy will warrant.

CONSTRUCTION AND EQUIPMENT.

"Up to the first day of January, 1869, the entire amount of work estimated to E. B. Talcott and associates, under their contract of August 1st, 1867, was as follows:

1st Div. Ft. Wayne to Lima.....	\$80,160 00
2d " Lima to Kalamazoo.....	44,414 10
3d " Sub. No. 1, Kalamazoo to twenty-one miles north.....	85,828 35
3d " Sub. No. 2, to G'd Rapids.....	113,895 55
4th " Grand Rapids to Cedar Springs.....	98,106 50
4th " Grand River Bridge.....	34,026 14
Total.....	\$456,431 50

"Since January 1st, work has been estimated to Hugh McKee & Co., on the sub. contract, for division No. 1, from Fort Wayne to Lima, to amount of \$10,387 65, making a total of work from August 1st, 1867, of \$466,819 15, and of work on the 1st division of \$90,548 51.

No statement or adjustment of the accounts of the company with E. B. Talcott and asso-

ciates, has been made since January 1st, 1869. At that time their estimates and accounts rendered, showed the following result:

Total estimates.....	\$456,431 50
One-tenth stock.....	\$ 45,643 15
Three-tenths bonds.....	136,929 45
Six-tenths cash.....	273,858 90
Cash Liability.....	273,858 90
Balance on location account.....	1,003 92
" on interest account.....	15,641 70
Total.....	\$290,504 52

Against this cash liability the company was entitled to a credit for various payments as cash, of.....\$182,721 65

Leaving cash balance.....	\$107,782 87
" Bonds due.....	137,000 00
" Stock.....	26,000 00

"According to an estimate of Mr. Gardner, on January 1st, last, there remained to be done to make the road ready for the rails between Fort Wayne and Grand Rapids about 484,000 yards of grading and about 170 acres of grubbing, and clearing and the necessary bridging and ties. The ties required, if all supposed to be got out, are available (some having been out for three or four years), will not exceed 220,000. The heavy bridging is mostly done, including that at Rome City, Pigeon river, the Kalamazoo and Grand Rivers. The statement may, therefore, safely be made, that there is nothing in the state of the work between Grand Rapids and Fort Wayne, (140 miles) to prevent, if the labor and means are promptly and properly applied, that division of the road being put in operation within six months.

"The contracting company has lately furnished two engines and are supplying the completed road with its complement of other equipment; and three construction trains are at work on the line north of Cedar Springs.

OPERATION OF THE ROAD.

"The accounts rendered by the contractors of their operation of the road, from its opening from Grand Rapids to Cedar Springs until January 1st, 1869, show:

Total Receipts.....	\$52,283 80
Viz: in 1867.....	\$ 1,028 40
" 1868.....	51,255 40

The Receipts of 1868 were:

From Passengers.....	\$19,156 95
" Freight.....	29,310 62
" Trackage.....	1,175 00
" Express.....	923 77
" Extra Baggage.....	55 65
" Storage.....	32 41

"The earnings of the last six months of 1868 were \$29,576 76, being an increase of \$6,809 54 over the preceding seven months, or about thirty per cent.

"The expenses of operation under the contractors, up to January 1st, 1869, less the forty per cent, \$20,700 75, due to the railroad company from the gross earnings, were \$22,892 51.

"The following is a statement from the Receiver's office, of the earnings of the road from January 1st, to July 1st, 1869, during which time, except the first nineteen days, in January, the road has been operated under the Receiver.

STATEMENT OF RECEIPTS FROM THE OPERATION OF THE G. R. & I. R. R. FROM JANUARY 1ST TO JUNE 30TH 1869, INCLUSIVE.									
	Freight.	Passeng's	Extra	Package.	Storage.	Express.	Demur.	Rent.	Under-
			Baggage				Page.	charges.	Total.
Jan. 1st to 19th.....	\$ 1,961 45	\$ 901 43	\$ 1 00	\$ 168 00	\$ 60	\$ 80 69	\$	\$ 27	\$3,113 46
Jan. 20th to 31st.....	1,458 69	608 45	2 50	194 00	.....	37 96	.....	.....	2,301 60
February.....	4,185 48	1,463 45	3 40	596 00	.....	90 30	.....	50	6,339 13
March.....	4,532 33	2,054 80	2 00	746 00	2 00	94 43	.....	15 46	7,447 02
April.....	4,073 88	2,249 75	7 00	711 00	2 50	116 70	.....	35 72	7,196 55
May.....	3,819 21	1,859 30	3 00	894 00	7 55	123 92	.....	.....	6,206 98
June.....	4,302 60	1,544 00	1 75	94 00	75	117 24	12 00	20 00	6,103 76
Total.....	24,333 73	10,681 20	20 65	2,903 00	13 40	661 24	12 00	20 00	63 28
									38,708 50

"This aggregate of six months earnings (\$38,708 50) is an excess of \$9,131 83 or nearly thirty-three per cent. over the preceding six months of 1868; and in view of the fact of the existence of the small pox at Cedar Springs during the spring and summer, and of the exceedingly wet season, and of the great pressure upon the road in construction transportation, is a very encouraging result in the business of the road. No statement of the operating expenses under the Receiver, has been furnished to the Directors or officers of the company.

The aggregate earnings for the year are \$63,285 17.

The following was substantially the financial condition of the company on the execution of the contract with the Continental Improvement Company.

LIABILITIES—CAPITAL STOCK

Stock certificates issued to July 1st 1869.....	\$978,975 00
Of which is interest stock.....	\$103,250 00
Mackinaw.....	173,000 00
	276,250 00
	\$702,725 00

Issued as full paid stock of which was issued for municipal bonds. 371,500 00

Private stock.....	\$331,225 00
Amount paid on private stock as shown by the company's records.....	407,477 49
Amount of stock earned on Talcott contract to January 1st, 1869, and not issued.....	26,000 00

Payments on private stock.....	\$483,477 49
Stock issued as full paid.....	702,725 00
Payment on stock not issued.....	102,252 49

Stock liability.....	\$804,977 49
Exclusive of "Mackinaw" and "Interest" stock.	

BONDS OF 1860.

Bonds sold.....	\$220,000 00
First mortgage bonds due under Talcott contract to January 1st 1869.....	137,000 00
Company's obligations for first mortgage bonds.....	120,000 00

UNFUNDED DEBT.

Old debt, estimated.....	\$100,000 00
New debt for iron, equipment, loans, &c., exclusive of interest and including cash liability on Talcott contract.....	900,129 23
	\$2,282,106 72

ASSETS.

Bonds of City of Kendallville.....	\$ 80,000 00
Bonds of City of G'd Rapids.....	25,000 00
Bonds of Town in Kent county.....	6,500 00
Land earned on construction first 20 miles section estimated.....	8,000 00
Total construction and all other expenditures and dis- counts.....	2,162,606 72

\$2,282,106 72

"With forty-five miles of your road now actually constructed, on forty miles of which daily passenger trains are running, and the large amount of work already done on 140 miles more of the line, and the means and strength brought to your enterprise, by the contract submitted to you, the directors are confident that another year of its history, will see at least 200 miles of your road in operation, and the line working its way to the rank, due to its position, and importance; and whatever may be the judgment of the future, upon the administration of the trust now surrendered to you, your directors, in so far as they are responsible for that trust, feel that they have faithfully endeavored to do their

duty to the public and to the stockholders."

The document is an able one, and succinctly narrates the history of the Road for the past year, its hopes and discouragements, its trials and triumphs. Mr. EDGERTON deserves success for his indomitable perseverance, and we are glad to see that he is in a fair way to see his aims attained.

The Directors and officers for 1869-70, are Joseph K. Edgerton, President; Samuel T. Hanna, Treasurer; John M. Godown, Secretary. Directors: Joseph K. Edgerton, Pliny Hoagland, Fort Wayne, Ind.; William S. Boyd, La Grange, Ind.; Jonathan G. Wait, Richard Reed, Sturgis, Mich.; Israel Kellogg, James A. Walter, Kalamazoo, Mich.; George H. White, Grand Rapids, Mich., and Mancel Talcott, Chicago, Ill.

STREET RAILWAY PRIZE TICKETS.—The street railway companies of Cincinnati have inaugurated a species of gift enterprises in connection with the sale of tickets. The ticket, when the passenger pays his fare, is torn in two, he retaining one-half with a number upon it, the conductor depositing the other in a box. At the close of the week the tickets in the hands of the company are put in a box, and on a ticket being drawn out, the passenger holding the other half ticket, with the corresponding number, is entitled to fifty dollars, to be paid by the company. The projector claims that the companies can afford to pay this sum every week, as they will save thousands of dollars in adopting this plan.

We first saw the above paragraph about three months ago, and have industriously invested our spare change and superfluous time in circulating over the five street railways in Cincinnati, in search of that fifty dollars. We regret to say that, to date, we are unable to find any such system, and trust no further circulation will be given to an item which reflects so markedly on the touching confidence of our street railway corporations in their employes.

NEW YORK AND BOSTON RAILROAD.—The surveys for the railroad which is to connect this city with the Boston, Hartford, and Erie Railroad at Brewsters, in Putnam County, has been surveyed and located, the right of way for about two-thirds of the distance has been secured, and it is the intention of the Directors to build about 20 miles of the road the ensuing Fall. It will run through the lands of Daniel Drew, in Putnam County, for about one mile. A meeting was held in the village of Carmel, a few days ago, under the auspices of about 100 influential gentlemen of that neighborhood, and it was voted to bond the town for \$250,000 to aid the construction of the railroad.

WESTERN AND ATLANTIC RAILROAD,
OFFICE SUPERINTENDENT,

ATLANTA, GA., August 20, 1860.

To his Excellency Rufus B. Bullock, Governor—SIR: I have this day paid to N. L. Angier, Esq., Treasurer of the State of Georgia, twenty-five (\$25,000) dollars, for the month of August, 1869, from the earnings of the Western and Atlantic Railway.

I am, Governor, very respectfully, your obedient servant,

E. HULBERT, Superintendent.

Railroad Decisions.

SUPREME COURT OF GEORGIA.

John E. Jones *et al*, plaintiffs in error, vs. The Macon and Brunswick Railroad Company, defendants in error. Injunction, from Bibb.

BROWN, C. J.—1. An injunction, which is a harsh remedy, should not be granted until a clear *prima facie* case is made by the bill. The allegations must be direct and positive. A charge that they are true, "on information received from others," is insufficient.

2. It is not necessary to the adjudication of this case, for this Court to decide whether the fifth section of the acts granting the aid of the State to the Air-Line Railroad Company, when applied to any other company, is constitutional or not.

3. Said section, if constitutional, does not confer upon any citizen or tax-payer of this State, any right to institute any suit or to file any bill in any Court of this State, to inquire into the conduct of the Legislature in the passage of any act or resolution on the subject of State aid, or into the conduct of the Executive in issuing the bonds of the State, as both are responsible to the people alone, and not to the Courts; or to inquire whether the company has complied with the terms of the act granting State aid, or whether the necessary subscriptions have been made, or to intermeddle in any way in the affairs of the company, further than is necessary to the investigation of the single question, whether the company has sold the bonds indorsed by the State for less than ninety cents in the dollar; and in case of a bill filed by a citizen or tax-payer, the Court should confine the investigation to that issue alone.

4. It was the duty of the Chancellor, under the resolution passed by the Legislature on the 28th of January, 1869, to dissolve the injunction in this case.

Judgment affirmed.

THE SOUTH-PACIFIC RAILROAD INJUNCTION.

In the Chambers of the Court of Common Pleas. Before Judge Daly, in the case of James E. Hodgskin and others vs. The South Pacific Railroad Company, and its Directors, in which an injunction was some time ago issued *ex parte*, on the representations of the plaintiff, restraining the issue of certain of the Company's first mortgage bonds, Joseph H. Choate, counsel for the Company, moved, upon papers showing the complete authority to issue these bonds, and giving the whole history of the Company's transactions relating thereto, for a dissolution of all the injunctions hitherto granted in the case. After hearing argument by Charles Wehle, counsel for plaintiff, Judge Daly said that from the statement of the case made by plaintiff's own counsel, he was convinced that there never had been any ground whatever for granting an injunction, and an order was accordingly entered dissolving all the injunctions hitherto granted in the case.

The case of the Royal Bank of Liverpool vs. the Grand Junction Railroad and Depot Company, brought in a Boston court, to recover the amount of one hundred bonds, dated January 1, 1850, has been decided in favor of plaintiffs. The amount in litigation was \$846,000.

Railroad Items.

—Mr. James F. Joy and Mr. R. J. Walker were in the city on Monday evening, on business connected with the Leavenworth, Lawrence & Galveston Railroad. While conferring with our citizens they expressed a desire to effect such arrangements as would enable them to run through trains to this point. In order to do this, however, the Kaw river must be bridged at Lawrence, and an understanding of some kind effected with the Pacific road. Mr. Joy left yesterday for St. Louis, to meet Mr. Perry and confer with him. He will endeavor to secure a long time lease of the road or an actual purchase. We believe it is Mr. Joy's purpose, so soon as he shall have conferred with Mr. Perry, and adjusted matters, to return to Leavenworth and have further conference regarding the bridging of the Kaw, &c.—*Leavenworth Commercial*.

—Steel headed rails are made at the Trenton, N. J., Rolling Mills, by the following process: The steel which is to form the head of the rail is first welded to a quite thin piece of iron. The combined bar is then beaten and rolled down until the iron is very thin and the steel reduced to about half its former bulk. After this operation is completed, the whole quantity of iron requisite to complete the bulk of the rail is added to the bottom of the combined bar, and welded to the thin layer of iron. This process, it is asserted, doubles the strength of the weld between the iron and the steel, always a difficult operation to perform. The old process consists in welding the relative thickness of iron and steel at one operation, but the new method is reported to furnish better rails.

—Says the Toledo *Blade*, Aug. 20: "Gen. Roeliff Brinkerhoff and Hon. Manuel May, of Mansfield; J. R. Wilson, and Isaac Seitz of Bloomfield; Seneca Co., and John Wilson, William Cox, Jacob Sheets, and Abner Cummings, of New Washington, Crawford & Co., committees in the interest of the Toledo, Tiffin & Mansfield Road, were in the city yesterday. The Trustees of the Toledo Railroad fund met with them. These gentlemen are laboring for a road from Toledo to Tiffin, and thence via Bloomfield, Seneca county, and New Washington, Crawford county, to Mansfield, instead of the Crestline route. They make a strong showing in money, right of way, and the other essentials in railroad building."

—The Laclede & Fort Scott Railroad Company proposes to build a railroad from Laclede, on the South Pacific Railroad, nearly due west to Fort Scott, a distance of about 130 miles. It has county subscriptions amounting to about \$900,000, and expects to obtain from Laclede county at least \$100,000 more. The country on its line is fertile and in parts rich in minerals, and it is believed that the road will prove very profitable both to the country and to its stockholders. Dr. J. N. B. Dodson, of Nevada City, Vernon county, is its President.

—The Union Car Works and Railway Foundry Company, of St. Louis, established in 1867, have a permanently invested capital in buildings, machinery, tools, &c., alone, of \$33,000, to which is added a sufficient working capital. These works are now producing yearly 300 cars, and 500 car wheels additional, employing 125 hands. The works cover nearly two squares.

—A large convention was held at Springfield, Missouri, on the 25 ult., to consider the project of building a railroad from Kansas City, Missouri, to Memphis, Tennessee, via Springfield, Missouri. Most of the counties along the line of the proposed road were represented, and much interest was manifested. Resolutions were adopted setting forth the importance of the road, and a temporary organization was effected, and a board of directors elected, with Colonel J. M. Richardson, of Springfield, as President, and Colonel J. M. Eldridge, Secretary.

—The Paterson Locomotive Works are unusually busy just now, keeping nearly two thousand workmen constantly employed in the three different establishments, severally known as the Rogers, the Danforth, and the Grant Works. During the first six months of this year the Grant Works turned out fifty two engines, and the other two establishments built about one hundred and ten, so that Paterson is now turning out engines at the rate of three hundred and twenty a year, or more than one a day for every working day in the year.

—A citizens meeting was held at Youngstown, Ohio, to devise ways and means to complete a proposed railroad from there to Ashtabula, on Lake Erie to connect there with the Lawrence road, called the Pittsburg, Youngstown and Ashtabula road. Speeches were made by Mr. Hubbard, President of the Ashtabula road, Mr. McCreery President of the Lawrence road, and other capitalists, who promised their aid in the project. They are confident of its success, and the necessary surveys will be made at once.—*Pitts. Chron.*

—On Saturday morning there were 800 freight cars loaded on the switches and road and at the Long Dock Depot, counting only between Port Jervis and New York. This has never been exceeded in the history of the Erie Road, although, perhaps, the new or increased tariff on freight, which takes place to day may account for the increase.—*N. Y. Tribune*, Aug. 23.

—The earnings of the Lake Shore and Michigan Southern Railway—Chicago to Erie—for the month of July last, compare with those of the same month last year, as follows: 1869, \$727,046; 1868, \$626,935; increase, \$100,111. The earnings of the Michigan Central Railroad for July were \$329,950 26, an increase of \$8,937.23 over corresponding month of last year.

—The earnings of the Kansas Pacific Railway for the week ending Aug. 15 were \$51,515 62. Of this amount all was from commercial traffic, except \$5,000 from Government mails and troops. The road is in progress of construction to Denver, the work being under the superintendence of Gen. William J. Palmer.

—The Indianapolis Rolling Mill Company, established in 1858, manufacture railroad iron and re-roll old rails; producing 100 tons daily, employing 250 operatives; works and yard cover four acres; capacity, 30,000 tons of rails yearly, made from pig iron of their own blast furnace in Western Indiana.

—Not less than 107 clergymen have clergymen's cards from the St. Paul & Pacific Railroad Company, entitling them to ride on the road at half fare. They give these cards to only those who live on the line of the road. It appears that the towns on this road are well supplied with preachers.

—The large freight depot of the Chicago, Burlington and Quincy Railroad, at Quincy, together with all the offices attached, and between twenty and thirty cars, mostly laden, was burned on Monday night. The loss is estimated at about \$100,000. A part of the cars belonged to the Hannibal and St. Joe road.

—English locomotives are reckoned to last for about 350,000 train miles, though on some road this may go up to 400,000 or even 500,000 miles, as the wear and tear depend greatly on circumstances.

LOUISVILLE, September 1.—The contracts for the construction of the Shelbyville Railroad were let out to-day. The work will be commenced at once, and completed within twelve months.

—Messrs. Henry Clews and Herman R. Baltzer of the foreign banking firm of Baltzer & Taaks have been elected directors in the Burlington, Cedar Rapids, and Minnesota Railway.

—The English system of selling reserved seats on the cars will be carried out on the Erie Railroad morning train to the West. The ticket will be numbered to correspond with the seat, like a theater ticket.

—The citizens of Madison, Indiana, are agitating the question of a railroad connection between that city and the proposed Cumberland and Ohio Railroad, at Eminence, Kentucky.

—It is rumored in New York that Commodore VANDERBILT will next Monday place upon his line an express train to run between New York and Chicago in twenty-four hours.

—Three engines and several freight cars were badly smashed on Aug. 30, on or near the railroad bridge at Kansas City. The damage is from \$15,000 to \$20,000.

—An Indiana railroad, which ran on a trestle-work for a long distance, became so noted for its casualties, that the alligators came up regularly for their daily lunch.

—Track-laying upon the Louisville Branch of the Ohio and Mississippi Railway is progressing satisfactorily. The road is expected to be ready for use by the 1st of December.

—It is stated at St. Joseph, Missouri, that the Erie Company has purchased a controlling interest in the stock of the Hannibal and St. Joseph Railroad.

—The Panama Railroad is badly hurt by the Pacific Railroad. Its stock has declined from 325 in May last to 210.

—THOMAS R. MOSBY has been appointed a commissioner to examine the Central Pacific Railroad.

—Ground was broken on Sept. 1, on the Portland and Ogdensburg Railroad.

NEW BOILER.—An entirely new style of engine boiler has just been built at Detroit. It is of steel, 5-16 of an inch thick, single shell, 20 feet long, and 4 feet in diameter, and is intended to stand upright upon a five-foot square furnace. In its center is a flue 36 inches in diameter at the base, and tapering to a diameter of 16 inches 12 feet from the base. For the remainder of the way, where it is above water, it is 24 inches in diameter, and surrounded by fire brick.—*Iron Age*.

Internal Improvements in China.

Hon. J. Ross BROWNE, in his letter to the Chinese Government on the subject of internal improvements, puts the following plea in the Celestial ear:

An important question, upon which no agreement has yet been reached, in the proposed extension of steam navigation on the inland waters. All experience has demonstrated in Europe, America, and India, and to some extent in the waters of China, that without the use of vessels and machinery propelled by steam, no extensive systems of trade can now be carried on, in any country, with profit. In Mexico, Central and South America, and other countries through which railroads have been constructed only to a limited extent, steam navigation on the coast and inland waters is now making considerable progress. These countries, however, are still very far behind the times, and the consequence is they are poor, and their trade is small compared with their capacity for production.

The use of small steamers, or even steam-tugs, on the upper waters of the Yang-tze-kiang, on the Poyang Lake, and on the Pei hu River, from Tientsin to Tungchow, would greatly facilitate the transportation of merchandise and domestic products, and would dispense with unnecessary and unprofitable labor, which could well be devoted to the opening of coal mines, building of roads, and other works of internal improvement.

A similar argument may be used in reference to railroads. Nearly all the land transportation is now carried on by means of coolies, camels, wheelbarrows, and small wagons. No system more difficult, tedious, and expensive could be devised. It is a draft upon labor without adequate result. Nevertheless, it could not be expected, much less desired, by a friendly power, that sudden and extraordinary changes should be made. An experiment on a small scheme, say from Taco, Tientsin, or even Tungchow to Peking would test the advantages of railroads, where the work could be directly under control of the Government. There are private capitalists who would be willing to take all the pecuniary risk, and receive their compensation upon any equitable basis that might be agreed upon as not injurious to the interests of China. Even a tramway from the coal mines in the vicinity of Peking to the city walls, or to the river, would be a reasonable beginning. The supply of coal now depends upon the growth of grass, for in bad seasons the camels starve, and coal becomes scarce and dear. This is a very uncertain dependence for so indispensable an article.

As the Yang-tze-kiang divides the Empire in nearly equal sections, this would be "opening up the country" pretty extensively. Mr. Browne is more zealous than wise, and such propositions are not calculated to advance our interests in China. If the envoy is working in the interest of the Pacific Railroad, as he evidently is, he should moderate his demands, and not ask too much at once from the suspicious Chinese.

COOLIE IMMIGRATION.—A dispatch from St. Joseph says 500 Chinese will shortly be sent to St. Joseph, whence they will be distributed to various points. Agencies will be established at St. Joseph, St. Louis, and at Springfield, Mo.

FREIGHT RATES.—According to the statements made by the General Freight Agents of the New York Central, the Hudson, and the Erie Railways, it appears that the freight business at present is so heavy as to severely tax the capacity of the roads. This pressure is due mainly to the low tariff, which, it is said, will be abolished to-morrow, although there is a probability that the proposed increase, will not be agreed upon before Sept. 1. The prices charged by the Pennsylvania Railroad are: 1st, 2d, 3d, and 4th classes to Chicago, 50 cents per cwt.; 1st, 2d, 3d, and 4th classes to St. Louis, 60 cents per cwt. The prices bulletined at the Erie and New York Central depots are alike, and as follows: All classes to Chicago, 25 cents; all classes to St. Louis 35 cents. To give an idea of the freight business, it may be interesting to note the transactions of the various railways, as far as they can be obtained. The Erie Railway sent out from Jersey City 15 trains, averaging 18 cars to each engine, on Wednesday, and the Superintendent of the road states there are now upon the route at side switches between Port Jervis and Jersey City alone, about 200 cars filled with Eastward bound goods, which he is unable to bring to Jersey City, until the storehouses of the Company at this end of the line are cleared of Western bound dry goods and general merchandise. The Hudson River Railroad is averaging 225 cars of Western goods daily, about 150 of which are consigned to Chicago and St. Louis. The number of car-loads shipped on Wednesday was 264, H. B. Claflin & Co., and A. T. Stewart & Co., have been obliged to keep their packers and forwarders hard at work for the last ten days, both day and night, owing to heavy orders for goods from the West.

THE SEA ISLAND COTTON CROP presents a very promising prospect, and the planters are jubilant. It is probable that not as much land has been planted in this staple as last year, but the planters have used a large amount of fertilizers with good effect. Last season it was estimated that the caterpillars destroyed fully one-half of the crop, and even if we escape these insects this year we can not expect to have a yield of more than double that of last year—say about 30,000 bags—although this is, of course, only a vague estimate. Thus far there have been no caterpillars on our Sea Islands, and the few which showed themselves in Florida some time ago were unable to propagate, on account of the dry, hot weather. We now have information that the pests have disappeared from that State. If the weather continues as fine for three weeks longer as it is at present, all fear of caterpillars will be dispelled; the crop will be safe, as far as they are concerned. The next cause for anxiety is the autumnal storms, which often prevail with great violence on our coast, and do much injury to cotton. Let us earnestly hope that our planters will be spared the visitation of such a cause of disaster, and make, at last, one good crop.

—Mr. C. Koopmanschoop, the Coolie laborer contractor, has agreed to furnish a St. Louis foundry fifty skilled Chinese laborers, at \$1 25 per day, the laborers to be delivered at the foundry in August. Mr. K. is a Hollander by birth, a resident of California, and has made six voyages to China during the past ten years, bringing over in person, or by deputy, not less than 50,000 Chinamen, now settled in California. He supplied 10,000 Coolies to the Central Pacific Railroad Company.

Railroad Patents

For the Week Ending August 24th, 1869.

[From American Artisan.]

- 93,945—*Truck for Street-cars*—Josiah Ashenfelder, Philadelphia, Pa.
- 93,975—*Railroad-car Spittoon*—J.S. Du Bois, St. Louis, Mo.
- 93,983—*Railway-car Spring*—Perry G. Gardiner, New York City
- 93,984—*Railway-car Spring*—Perry G. Gardiner, New York City.
- 93,081—*Railroad Conductor's Ticket Box and Fare-detector*—Edwin Cowles, Cleveland, Ohio.
- 93,083—*Railway-car Brake*—Jay M. Crosby, assignor to himself, William Ballard, and Frank Livingston, Marathon, N. Y.
- 94,086—*Street-car*—Marinus De Graff, Chicago, Ill.
- 94,100—*Car spring*—Perry G. Gardiner, New York City.
- 94,101—*Railway Car-spring*—Perry G. Gardiner, New York City.
- 94,102—*Snow-plow for Railways*—Charles L. Garfield, Albany, N. Y.

IRON TRADE.—With regard to the iron trade, it is stated that contracts for the home trade are being offered with a little more freedom; buyers being evidently impressed with the idea that unless engagements are speedily entered into higher prices will have to be paid. At the local ports considerable activity is being evinced in the shipment of rails to the Russian empire, makers being anxious to dispatch all the orders they secured for delivery this year before the close of the navigation season to the northern ports. It is, however, pretty generally believed that several orders for rails for Russia will not be executed this year, and these, together with continental orders shortly expected to be given out, will afford employment to the hands engaged during the approaching winter months. Large quantities continue to be sent to the United States, but the American engagements lately entered are not so heavy as they have been.

—Another prodigy of iron work has been turned out from the Corliss Steam Engine Works in Providence. It is a propeller screw for the United States steamer "Pompanoosuc," 18 feet in diameter and fitted on a wrought iron shaft 18 inches in diameter. The hub of the screw is 4 feet long and 11 inches thick. The screw is a solid casting of bronze metal—88 parts copper, 10 of tin and 2 of zinc, weighs 35,273 pounds, and is worth \$20,000. It is the largest casting ever made in Providence, and is a specimen of perfect workmanship. The company are constructing another screw, somewhat smaller.

—Seyfert, McManus & Co., proprietors of the Reading Iron Works, employ two thousand men in their foundry, steam forge, rolling and nail mills, tube works, &c. The rolling mill has a capacity of 5,000 tons per annum; the tube mill about 10,000,000 feet of wrought iron gas, steam and water tubes, besides 3,000,000 feet of lap welded boiler tubes; 350 tons of pig metal are produced daily, and about 5,000 tons of sheet iron annually. The wages amount to \$70,000 per month.

HEAVY RAILS—The railway from London to Brighton is to have steel rails over one hundred pounds to the yard, so as to have a head of the width of the tread of the wheels, and to distribute the weight of the rolling stock so as to obtain less than the present weight per wheel, and thus preserve the way.

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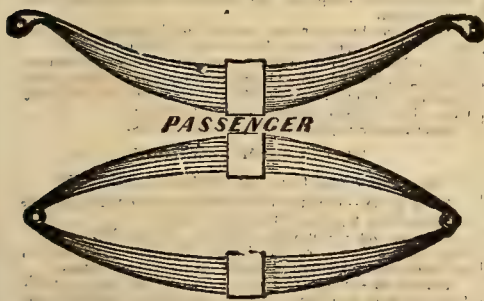
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daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.25 A. M.; Galion, 4.05 A. M.; Mansfield, 4.50 A. M.; Akron, 7.32 A. M.; Ravenna, 8.16 A. M.; Leavittsburg, 9.00 A. M. (Breakfast); Meadville, 11.30 A. M.; Hornellsville, 6.14 P. M. (Supper); New York, 6.30 A. M. Connects at Mansfield with Pittsburg, Ft. Wayne & Chicago Railway for Pittsburg, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities. New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through 860 Miles without Change.

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mond	3 00 P. M.	10 30 A. M.
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And all Rail and River Towns and Cities in the West,
North west and South-west.

ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS
WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail	6 30 am	12 20 am
St. Louis and Springfield Express	3 35 pm	8 20 am
St. Louis and Springfield Express	10 35 pm	3 30 pm
Lawrenceburg Accommodation	10 00 am	2 35 pm
Lawrenceburg Accommodation	4 45 pm	8 05 am

*The 10:35 pm. train will leave Sundays, but not on Sat-
urdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail	7 00 am	10 00 am
Chicago Express	6 30 pm	9 40 pm
Harrison Accommodation	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnet House
Office, corner of Third and Vine; River Office, corner of
Walnut Street and River; and at Depot, corner of Plum
and Pearl streets. The splendid Passenger Depot of the
L. & C. Railroad is about a mile nearer the business center
of the city than the Depot of any other railroad, and with-
in a few squares of the Postoffice and principal hotels and
Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

Philadelphia, Wilmington & Baltimore
RAILROAD!

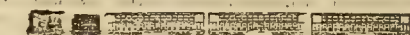
FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
(Express); 12.30 P. M.; 11.30 P. M. night.
On Sundays, 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West, 7.35 A. M.; 7.20
A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore
at Washington at 4.15 A. M. and 11.00 P. M. Leave at
more for Philadelphia at 6.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave
Wilmington for Philadelphia at 8.30 P. M.

The Old And Reliable Route.



Through to Pittsburg without Change.

The PITTSBURG, FORT WAYNE & CHICAGO RAIL-
ROAD, in connection with the Cincinnati, Hamilton &
Dayton, and Little Miami Railroads, still continue to trans-
port produce and merchandise between Cincinnati and
Pittsburg, Philadelphia, Baltimore, New York or Boston,
and all Eastern points with the greatest promptitude and
dispatch.

For Rates, Bills of Lading, or any information desired,
shippers will please apply to

H. W. BROWN & CO.,
No. 27 West Third Street, Cincinnati.
W. P. SHINN, General Freight Agent,
Pittsburg, Pa.

LOUISVILLE & CINCINNATI
SHORT-LINE RAILROAD.

Time only 5 hours

Fare Only \$3.50—Transfer from Hotel or
Residence to Depot, in Covington, Free.

THE SHORTEST ALL-RAIL ROUTE TO
Louisville, Nashville, Memphis, New
Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail	7.00 A. M.	2.30 P. M.
Evening Express	5.45 P. M.	9.00 P. M.
Walton Accommodation	4.00 P. M.	9.30 A. M.

The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
the Walton Accommodation, offer great inducements to the
citizens of Cincinnati and Covington who wish to pur-
chase country residences or small farms for gardening.
This train leaves late in the afternoon, and arrives early
next morning, giving all day to attend to business. For
further information as to routes, low fare, &c., please apply
at No. 1 Burnet House, or Depot Covington, Ky.

SAM'L GILL, Gen'l Supt. Louisville.

CENTRAL RAILROAD

—OF—
NEW-JERSEY.

On and after Monday, May 21, 1866, three Express
Trains will leave New York daily (Sundays excepted) vi
Central Railway of New Jersey, and Allentown, leaving
Pier 15, foot of Liberty street, North River, at 7:00 a.
9:00 a. m. and 18:00 p. m. On Sundays, one Express Trai
at 8:00 p. m.

Passengers by this route save 60 to 130 miles, and Two
Hours Time over other Lines, with but one change of
cars to Chicago or Cincinnati, and but two to St. Louis.
Passengers from the East by Sound Boats or by Rail in the
morning, will have time for Breakfast before leaving the
City. Fares always as low as by other Lines.
State-room Sleeping Cars on Night Trains.

TRAINS FROM NEW YORK

(Leave New York from foot of Liberty street, N. R.)
7:00 a. m.—CINCINNATI EXPRESS, for the West, arrives
at Harrisburg 2 p. m., Pittsburg 12 night

9:00 a. m.—MORNING EXPRESS for the West. This
train leaves New York Two Hours later than other Lines,
and arrives at principal places West at the same time.

12:00 m.—WAY TRAIN, connecting at Easton with
Lehigh Valley Railway to Mauch Chunk; at Reading with
Philadelphia & Reading Railway for Pottsville, arrives at
Harrisburg at 8:30 p. m. Without change of cars from
New York to Harrisburg.

8:00 p. m.—EVENING EXPRESS, for the West with
but one change to Cincinnati or Chicago, and but two to
St. Louis. This train leaves New York Two Hours later
than other Lines, and arrives at principal places West at
same time.

TRAINS TO NEW YORK

(Leave Harrisburg.)

9:15 p. m.—EXPRESS TRAIN from Cincinnati, arrives
at New York at 6:00 a. m. next day.

3:00 a. m.—EXPRESS TRAIN from the West, leaving
Pittsburg at 4:20 p. m.; passes Harrisburg at 3:00 a. m.;
Reading at 4:49 a. m.; Allentown at 6:00 a. m.; Easton at
7:09 a. m. Through cars from Pittsburg to New York.

9:05 a. m.—FAST LINK from the West, leaving Pitts-
burg at 10:10 p. m.; passes Harrisburg at 9:05 a. m.; Read-
ing at 10:52 a. m.; Allentown at 12:02 p. m.; Easton at
1:10 p. m. Through cars from Pittsburg to New York.

7:25 a. m.—WAY TRAIN, from Harrisburg, passing
Reading at 10:40 a. m.; Allentown 12:30 p. m.; Easton
at 1:35 p. m. Through cars from Harrisburg to New York.
Arrives in New York at 5:20 p. m.

2:10 p. m.—FAST MAIL from the West, leaving Pitts-
burg at 3:10 a. m.; passing Harrisburg at 2:10 p. m.; Read-
ing at 4:30 p. m.; Allentown at 6:00 p. m.; Easton at
7:20 p. m. Through cars from Harrisburg to New York
Arrives in New York at 10:45 p. m.

H. P. BALDWIN, General Ticket Agent.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON,
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, SEPTEMBER 9, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
" " per month.....	5 00
" " six months.....	15 00
" " per annum.....	25 00
* column, single insertion.....	7 00
" " per month.....	14 00
" " six months.....	55 00
" " per annum.....	100 00
" page, single insertion.....	25 00
" " per month.....	32 00
" " six months.....	135 00
" " per annum.....	250 00

Cards not exceeding four lines, \$7 00 per annum.

WRIGHTSON & CO., Prop'rs.

The Louisville, Cincinnati & Lexington Railroad Company.

The Third Annual Report of this Company has been received. It is a handsome pamphlet of 75 pages, full of facts and figures, and presents a gratifying exhibit of prosperity. We regret that a want of space prevents full justice to the report.

The report of W. A. DUDLEY, Chairman of the Executive Committee of the Louisville, & Frankfort and Lexington & Frankfort R. R. Companies is first in order. He discusses and strongly recommends a consolidation of the two companies, whose interests are identical and inseparable, and presents the following comparative statement:

	Lou. & Frank. Lex. & Frank.	Total.
Capital Stock,...	\$1,109,594 40	\$514,716 02
Debt secured by mortgage,.....	188,000 00	25,000 00
Debt unsecured,.....	74,519 56	74,519 50
Total Liabilities,.....	\$1,372,113 96	\$539,715 02
		\$1,911,429 92

"The joint liabilities on account of the Cincinnati Branch are borne by the two Companies, as between themselves, in the same ratio in which their profits are divided, and do not therefore constitute an element in considering the terms of consolidation.

RECEIPTS AND EXPENDITURES.

The receipts for the fiscal year ending July 1, 1869, were.....\$503,871 83
And the operating expenses..... 341,115 39

Leaving as net profits of the year \$162,756 54
Net profits of year ending July 1, 1868..... 157,247 06

Increase..... \$5,509 48

"The actual cash expenditures for the past year were only \$325,429.11, the remaining \$15,685.52 having been furnished from materials previously accumulated and paid for out of the undivided profits of former years. It is necessary that considerable stocks of material shall be kept constantly on hand, and it

being, of course, desirable to assign to each year its proper share of expenses, there arises always a discrepancy between the totals of 'cash expended' and 'operating expenses' of any particular year.

REPAIRS.

"The repairs of the road have been kept up to the usual standard, and the track is in very good condition throughout. The completion of the Cincinnati Branch will of course throw a very much heavier traffic upon the road between Louisville and Lagrange than it has heretofore been subject to. It was therefore desirable to place that portion of the line in the best possible order. As stated in my last report, we have purchased in England seven hundred tons of iron rails beyond what was required for the main track and sidings of the Cincinnati Branch. This surplus has been laid on the old road from Lagrange westward, and the rails which were taken up have been put down again on the sidings of the Branch. In this manner several hundred additional tons of new rails have been relieved, and the process of relaying the old road is being continued. By the end of the summer the track between Lagrange and Hobbs will have been relaid with the new fish jointed rail, leaving only twelve miles to be relaid hereafter at your convenience.

ACCIDENTS.

"Four persons lost their lives upon the road during the year. None of them were passengers or employees of the Company. Two—a boy and a girl—were killed in attempting to climb upon the trains without the knowledge of the officers in charge. One—a boy—was run over and killed while lying asleep on the track. One man, while walking on the track in front of an approaching train, fell, as is supposed, in an epileptic fit, and was run over and killed.

"The most serious casualty to your trains occurred near Eminence on the 19th of June. As the afternoon train going east was approaching that place the flange burst off one of the front truck wheels of the locomotive, which was thrown from the track. The track was torn up and six of the rails passed into the baggage-car, where they were deposited as though they had been carefully placed there for transportation. Four persons were seriously, but not mortally injured. An examination of the broken wheel disclosed a hidden flaw which we had no means of discovering beforehand. The wheel had been running only a few months, and had been carefully sounded and inspected in the usual manner immediately before the locomotive was attached to the train.

CINCINNATI BRANCH.

The completion of the portion of the road from Lagrange to Covington, opens up a new and important source of income. Mr. DUDLEY thus alludes to it:

"The end of the fiscal year witnessed the opening of the Cincinnati line for passenger business. The total expenditures, exclusive of discounts and interest paid, is \$3,827,998 - 42. This includes the sum of \$60,393.24 for interest yet to accrue on notes given for rails and equipment. The floating debt is provided for by the deposit as collateral security of 372 mortgage bonds and 6,517 shares of preferred stock. The larger portion of the debt for which they are pledged will not mature for nearly two years to come, so that ample time will be afforded to realize the hypothesized securities for its payment.

The Company in order to connect with the Louisville & Nashville Railroad, have offered to change the gauge of their road on the terms proposed by the Louisville city authorities, if time should be allowed them, until the completion of the new bridge at Cincinnati should enable them to make connection on the new gauge with the Eastern roads; but thus far the question is not definitely settled.

EXTENSION TO NEWPORT.

"We have the most confident assurances that the bridge will be ready for use in the course of next summer. No considerable expenditure will be required in the extension of your line from South Covington to Newport until that bridge approaches completion. The utmost that can be needed this season would be to put in the foundations for the piers of your own bridge across Licking River, so as to enable us to complete the structure readily during the next spring or early summer. The rest of the work is of so easy a character as to require a very short time for its completion.

"In the mean time our business is accommodated at Covington by an arrangement with the Kentucky Central Railroad Company for the use of a mile of their track, and by the erection of temporary station buildings upon grounds leased from that company.

"It can not be expected that your road will be able to command its proper share of traffic either in freight or passengers while we are without connections at either end of the line. "Yet the brief experience which we have had from the opening of the road to the time of writing this report is very far from discouraging. We have been carrying passengers but six weeks, and the public are just beginning to understand the advantages which we offer them. The passenger receipts for the month of August will very closely approximate, if they do not exceed, those of the old road, which has been in successful operation for nearly twenty years. As it is only a fortnight since we advertised our readiness to carry freight, we can not be said to have had any actual experience of the business; but I may add that it is already evident that the freight traffic from the eastern end of the Lexington line will receive large accessions from the use of the Cincinnati Branch, and that the business between Cincinnati and Louisville is beginning to develop itself very encouragingly. There can be no doubt of a steady increase of both passengers and freight, even while matters remain as they are; and if, as there is every reason to hope, we shall be able next year to complete our connections at both Louisville and Cincinnati, the increase can not fail to be immediate and very great.

"The intervening country between Lagrange and Covington has heretofore been so secluded and inaccessible from without that time will be required to develop its capabilities and accustom its people to the use of the new facilities now offered them. Its principal production, tobacco, had been already marketed for the present season before the opening of the road. Since that time the farmers have been engaged in harvesting their crops, so that neither in passengers or freight has any fair indication been given of the traffic it will afford us. The value of lands has risen, but is still low compared with that of other lands not more fertile nor so well located with a view to market. When the character of the soil and its proximity to

market become understood by the public, population will flow in rapidly and production will be largely increased. Several of the way-stations already compare favorably in point of traffic with the stations upon the old line.

Mr. DUDLEY alludes to the resignation of Gen. ST. JOHN, late Chief Engineer of the Cincinnati Branch in appropriate terms, and pays a well deserved tribute to Mr. GILL.

"Mr. Gill, the able and faithful Superintendent of your road for fifteen years past, had become so enfeebled in health that, being unwilling to accept the resignation he tendered, we found it necessary on the 1st of July to grant him leave of absence. I am sure the Stockholders will join the Executive Committee in their ardent wishes that the restoration of his strength will enable him at no distant period to resume the duties he has discharged so long and so well.

CHIEF ENGINEER'S REPORT.

Gen. ST. JOHN gives an interesting resume of his labors for the year. After alluding to the difficulties experienced from the failure of contractors, the want of laborers, and the troubles experienced from land slides, he says:

"The track was joined up early in April last, in about twenty-three months from the general commencement of graduation, twenty-three months of steady struggle with the physical difficulties of a heavy profile and slipping materials; with labor usually fluctuating and unreliable, and the seasons alternating rapidly between drought and freshets; conditions of work which will be appreciated by men of work. The test engine passed over the track on the 19th of April; and, attesting the confidence of the engineer and workmen in their work, it passed over a large portion of the newest track at night and during the heaviest storm of the season.

"The location of this road (having been so fully referred to in previous reports) may now be concisely stated as a close approach—and in fact, within the limits of careful engineering, the closest approach—to a direct line between Louisville and Cincinnati which the heavy topography of the country, with its high ridges and deep valleys, allowed within the Company's limit of cost. The minimum distance thus secured is much less than that of any route now existing between the two cities, or likely at any time to be constructed. Should the occasion ever arise, a further reduction of three and a half miles' distance, with considerable saving of curvature, can be secured at three points elsewhere indicated, but within limits of cost frequently accepted in England and at times in this country. In arranging the details of this location, it was of course imperative, crossing transversely the drainage of the country, to accept a system of undulating grades combined with curvature. Yet the maximum gradients as located, 60 feet per mile, and curvature 6° maximum, are less both in degree and amount than upon the connecting lines. And as to practical results, it is well known that the fast express time of the first-class American roads is an every-day matter upon the Louisville and Cincinnati Railroad.*

"The plans of our bridges are the Fink suspension and triangular, the Smith & Lat-

*Three hours and fifty minutes, including stoppages, is frequently run from Louisville to Covington—depot to depot.

robe iron girder, and the iron trestle bridges. The latter structures were described in detail in the last report. The Assistant Superintendent and Engineer reports that they continue to give entire satisfaction. The only improvements which their experience has thus far suggested is a somewhat closer study of the longitudinal bracing; and, upon slipping hill-sides, to carry the structure up nearly to the road to grade, accepting expensive pedestal foundations in preference to a slipping embankment, with abutments sufficiently heavy to insure stability.

"The original estimate of final cost of road, construction and equipment, was as follows:

To Covington.....	\$3,933,401 00
To Newport.....	4,045,266 00

"A comparison in detail of the final cost of the road with the original estimate can not yet be made; but as the principal accounts have been closed, it may now be stated that the variation between the two will be within a small percentage. To the total as above given, \$3,827,998.42, will be added the cost of work remaining to replace temporary with permanent structures, which is estimated by the Assistant Superintendent and myself at \$96,025; and also such further outlay on depot work, terminal connections and equipment as was contemplated in the original estimate. Upon the other hand, there would be deducted from the same total a large expenditure in rail iron, cross-ties, and track material used in improving the Louisville & Frankfort track, and on hand; also the cost of surveys and some other minor charges entering into the Auditor's account, but not into the estimate which was for construction and equipment.

BALANCE-SHEET.

Treasurer's Statement from January 1, 1867, to June 30, 1869, Louisville, Cincinnati & Lexington R. R.

June 30, 1869—Rec'd for 2,628 Cin'ti Br. bonds and int.....	\$2,250,442 15
Rec'd for 8,428 shares pref. stock and int.....	846,131 94
Rec'd for 59½ shares pref. stock unissued.....	5,967 02
Rec'd for net earnings.....	397,613 41
Rec'd for bills payable.....	630,342 84
Rec'd for miscellaneous.....	13,486 96
	<u>\$4,143,984 32</u>
June 30, 1869—Paid for construction.....	\$3,511,429 54
Paid interest, etc.....	225,953 55
Paid dividends on preferred stock.....	54,940 50
Paid Louisville & Frankfort R. R. Co.....	235,896 21
Paid Lexington & Frankfort R. R. Co.....	101,261 92
Paid cash balance.....	14,502 60
	<u>\$4,143,984 32</u>

STATEMENT OF CINCINNATI BRANCH BONDS.

Number of bonds paid for since January 1, 1867.....	2,628
Of which there are yet undelivered.....	4
	<u>2,624</u>
Number of bonds issued as collateral.....	376
Authorized issue.....	3,000

STATEMENT OF PREFERRED JOINT STOCK.

Number of shares issued.....	8,428
do do do collateral.....	6,230
Unissued stock, individual companies.....	59½
	<u>14,717½</u>
Balance undisposed of.....	282½

Authorized issue..... 15,000

NET CASH EARNINGS FOR THREE YEARS.

The following Statement shows the Net Cash Earnings of the Joint Roads for Three Years, ending June 30, 1869, and the Disposition made of the same.

The Gross Cash Receipts were:	
For 1867.....	\$510,319 02
For 1868.....	493,218 93
For 1869.....	503,871 83
	<u>\$1,507,409 78</u>

The total Operating Expenses, consisting of Cash and Material used, bought in former years, were:

For 1867.....	\$357,101 90
For 1868.....	335,971 87
For 1869.....	341,115 29

\$1,034,189 06

Deduct therefrom the amount of Material used from the stock of supplies on hand, viz:

On hand	
July 1st,	
1866....	\$114,640 88
On hand	
July 1st,	
1869....	43,770 56

Showing a decrease of.....	70,870 32
And actual cash expenditures of.....	963,318 74

Leaving a balance of..... \$544,091 04

Deposited, viz.:

Paid Lon. & Fr. R. R. in cash and stock for 1867.....	\$118,078 84
Paid Lon. & Fr. R. R. in cash and stock for 1868.....	103,838 73
Paid Lon. & Fr. R. R. in cash and stock for 1869.....	74,078 89
	<u>\$295,996 37</u>
Paid Lex & Fr. R. R. in cash and stock for 1867.....	\$53,308 94
Paid Lex & Fr. R. R. in cash and stock for 1868.....	45,700 00
Paid Lex & Fr. R. R. in cash and stock for 1869.....	28,439 38
	<u>127,448 32</u>

Paid into Cincinnati Branch fund, viz.:

Dividend on preferred stock, 1868...	\$8,900 09
Balance as per Table No. 3.....	111,746 26
	<u>120,646 35</u>
	<u>\$544,091 04</u>

LENGTH OF ROAD.

Louisville to Lexington.....	93 50 miles.
Lex. June. to Covington.....	79.20 "

Total main lines..... 172.70

Sidings, Louisville to Lexington.....	9.67 miles.
Sidings, Lex. Junction to Covington.....	5.03 "
Total sidings.....	14 70
Total.....	187.40

TRANSPORTATION.

Freight in tons.....	89,603
Passengers.....	705,055
Cost per mile, passengers.....	\$142.68
do ton freight.....	190.76

The Officers of the Road are:

Executive Committee: W. A. Dudley, Ch'n, Norvin Green, C. N. Warren, W. A. Dudley, J. Guthrie Coke, J. F. Speed, and M. C. Johnson.

Superintendent: Samuel Gill. Asst. Sup. and Engineer: H. T. Douglas. Asst. Sup. Trans. Department: J. E. Gimperling. Sec. and Treasurer: W. H. Beynoth. Auditor: Wm. Mahl. General Ticket Agent: Henry Steffee. Gen. Ft. Agent: Edward P. Wilson.

The road has made a new bond of union between the cities of Louisville and Cincinnati, that can not but be for their mutual benefit. The Councils of the respective cities early availed themselves of this new route to dine and wine at each other's expense, and returned enthused with cordiality. If their predictions prove true, we may look for a large increase in the earnings report for the next year.

Reproachful.

The *Kalamazoo Gazette* says: "It is strange Cincinnati is so slow on the Southern Railroad question. She ought to have direct lines to Mobile and Charleston. And it is strange that no geographer has ever pointed out to her the short space between Cincinnati and Norfolk. If she only knew how short that space is—or how near Norfolk is to her—and the natural capacity of that place for a harbor, she might take proper steps to remain 'the Queen City of the West'."

The "short space" has been pointed out, time and again, and advantage will be taken of it one of these days. Cincinnati moves slowly, but *she moves!* The Norfolk route will be the next subject for discussion, after the Southern Railroad has been digested. Meantime, we want our Michigan friends to hurry along that lumber road. Our manufacturers will keep it busy.

ELIZABETHTOWN AND PADUCAH RAILROAD.—We are gratified to learn of the rapid progress of the work on this road. The bridges over all the rivers are now under contract, and on some of them the work is already under way, and two-thirds of the whole road is now under contract, and a portion of the first letting, extending from Elizabethtown to the line of Ohio County, (a distance of fifty miles) nearly completed. The iron sufficient for track laying to Litchfield in Grayson County is provided, and by October 1st this work will begin. Thus far the active energies of President Thomas and his Board of Directors give promise of the early completion of this valuable enterprise, and the well-known reputation of their Chief Engineer, Mr. MacLeod, insures the work to be well done.—*Louisville Courier-Journal*.

Memphis, El Paso & Pacific Railroad.

In answer to inquiries we have received the following interesting information regarding this road:

"MEMPHIS, EL PASO & PACIFIC R. R. Co. }
New York, Sep. 2, 1869. }

"EDITORS RAILROAD RECORD:

"The Texas grants have not lapsed. We have several corps of engineers in the field on line of our road in Texas, and a large number of laborers employed, under able contractors, to construct the road bed. 150 miles on the first division in Texas will be completed, and in running order by April, 1870. The iron rails for it have been purchased in France. Several vessels laden with it are now in sea for New Orleans. Some of the very finest passenger locomotives have been purchased in France, and some first-class freight locomotives are now being built for the company at Paterson, New Jersey, to be ready for shipment to Texas early in October next.

"The company has also a force to work on the line of their road in Arizona. A full corps of engineers have also left for San Diego, Cal., to commence operations on the Western division from San Diego towards Fort Yuma. Arrangements have also been made to ship a large number of German emigrants to work on the line of road in Texas.

"The company proposes to build a first-class road in all respects. The iron purchased in France is of very best quality and manufacture, weighing 73 pounds to the yard, etc." Yours very respectfully,

"W. R. BERGHOLZ,

"Chief of Construction, etc."

The above exhibits in brief the condition of affairs, and shows that the opposition thus far has accomplished but very little. The road is a necessity and *will be built*. We regret that our iron manufacturers are prevented by a want of capital, or faith, from exchanging their iron for bonds in these enterprises. American iron for American railroads should be the rule, and not the exception.

MARYLAND CENTRAL RAILROAD.—The survey for the Maryland Central Railroad, which was commenced on the 16th of August by Gen. I. R. Trimble, of Baltimore, and W. S. Shoemaker & Son, has been completed. The starting point is near Towson town, running in nearly a northeasterly direction, and terminating at the Little Falls of Gunpowder. The distance is about 11½ miles. The line crosses the Great Falls of Gunpowder, near Raven Rock, at an elevation of about 120 feet. The profile shows this to be the most practicable route for a railroad that has yet been examined in that section of country. The most elevated points on the line are at Towson town, 407 feet, the ridge dividing the Dulaney and Long Green Valleys, 427 feet, and the ridge at Baldwin's, 427 feet above tide water.

—The road-bed of the New Jersey Western Railroad is to be constructed at Hawthorne, two miles north of Paterson.

Defects of Railway Tracks and Permanent Way.

An English engineer residing in this country, writes us somewhat at length concerning the well known defects of railway tracks, advertising more particularly upon the trouble at rail joints in connection with the use of the common cross-tie, and says:—"I am not at present prepared to say what would be the most desirable mode of superstructure, but will hazard an opinion that a longitudinal sill, with dove tailed cross-ties every four feet, for keeping the gauge, such as were used by the late Mr. Brunel on his seven feet gauge line from London to Exeter, which to a certain extent overcame the motion I speak of. So free is this class of road from lateral motion that at 45 miles per hour, a person is able to write a legible hand, having done this myself from London to Windsor. Now in a country where timber is so cheap as in the United States, I have been surprised that this experiment has never been tried, which would have confirmed more or less the theory and practice of one of the ablest French engineers we had in England. I think that by adopting such a plan of roadway in this country, the annual cost of upholding the track, would be less per mile than with ordinary ties as now used. I am not aware, however, what the average cost per mile may be in the United States for single lines. When last in England, in 1863, our double lines were costing for upholding per mile per year £100 sterling or \$500 of your money. I may here instance one line in particular, from London to Colchester, under the supervision of Mr. P. Ashcroft, a most rigid economist in those matters. He told the writer that his roadway was not costing more than £93 sterling per year, I am much interested in all that relates to roadway construction, and having been nearly forty years officially connected with such works, I should be glad to see more care taken by American engineers in laying down the road-bed, and better drainage than I have observed on many of your lines. Do not let me be understood as wishing to depreciate the construction of any public work in particular; but, as a general thing, the side ditches or channels are not kept sufficiently open and in some instances not deep enough, and there is a too limited number of cross culverts or pipe drains, from slope to slope on the base of the roadway to carry off the surface water, which, when allowed to stand by the negligence, of the track-foreman, naturally soaks into the ballasting, and destroys the roadway more or less, especially when heavy traffic exists, and hence the rapid destruction of iron, ties, and expensive machinery so much complained of by engineers and directors. You will coincide with me that there is not a more important item in all our railway expenditure, or one that requires a more careful supervision than a good and dry roadway, not only in an economical point of view, but in a far more important one, that of the public safety.

Yours truly,

W. D.

Aug. 15, 1869.

TENNESSEE RAILROADS.—Knoxville, Tenn, Aug. 23.—Colonel Folsom, Quartermaster United States Army, is here under orders from the Government to take possession as Receiver of the East Tennessee and Georgia and East Tennessee and Virginia Railroad Companies, for an indebtedness of \$600,000 due the Government for engines and rolling stock purchased at the close of the war.

The North-western Railroad. Its new President.

Mr. Alexander Mitchell, who was elected, on Wednesday, President of the North-Western Railroad Company, is one of the leading financial men of the West. This immense corporation, since its main line was finished from Chicago, Ill., and Green Bay, Wis., has absorbed nearly all the lines between Chicago and the Mississippi River, and its system of railroads now extends in all directions through the granaries of the North-west, including some 1,291 miles in all. This is more, we believe, than the Union Pacific Company owns at present. *The Evening Mail* of yesterday says of the new President.

Mr. Mitchell is a man noted for his Scotch shrewdness, far-seeing sagacity, imperturbable coolness under all circumstances, and a pleasant humor which never forsakes him. He is a man of ideas and action rather than of words; slow to promise but sure to perform; a staunch friend and a dangerous enemy; a man, in a word, whose character and financial position are best hinted at by the word "solid." Under his direction the stock of the North-Western may go up or down, but we have confidence that it will neither be lowered nor raised by his action, save so far as a wise, economical and consistent policy may gradually enhance its securities. Mr. Mitchell must be about 55 years of age, but is a man of such compact and vigorous physique that he is apt to continue an active career for at least 28 years to come.—*N. Y. Tribune.*

THE PENINSULAR RAILROADS.—The railroads now finished and under way and connecting with the Delaware railroad on the Eastern Shore of Maryland are as follows: The Delaware branch, starting from Townsend Station, and completed to Massey's Cross Roads, in Kent County, Md. From this point two branch roads are being built—one along the north side of Chester river to Deep Landing, about twelve miles below Chestertown; the other on the south side of the river to Centerville, and terminating on the river a few miles below that town. The Maryland and Delaware railroad is now completed from Clayton Station to Easton, Md., and the work of grading to Oxford, twelve miles below, commenced. At this point the road will connect with the steamers from Baltimore. The Junction and Breakwater railroad starts from the Delaware road to Harrington. It is completed to Georgetown, to which point cars run, and graded to Lewis, Delaware, and the iron is now being laid. The Dorchester and Delaware road is now completed within three miles of Cambridge, Md. This road commences at Seaford, Delaware. The Pocomoke and Berlin road is in running order from Salisbury to Berlin, a distance of twenty-four miles. The Delaware road which connects with the Philadelphia road at Wilmington, is the main trunk.—*Balt. Sun.*

MISSISSIPPI RIVER RAILROAD.—The contract for the construction of the first thirty-six miles of the Mississippi River Railroad extending from Memphis to Covington, was let out Aug. 24. The bidding was close and spirited; at least four companies offering to take the contract for building the entire length of the road, and many bidders for the work in detail. The successful bidders were Geo. W. Saulpan & Co., of Nashville, Tenn. The firm is composed of the following persons: Geo. W. Saulpan, James H. Allen and Geo. P. Gates of Nashville, Tenn., all practical

railroad and bridge builders, Charles McGee, of Knoxville, and James H. Calloway, of Cleveland, East Tennessee, Geo. B. Fleece, of Fayette county, Tenn., Engineer to superintend construction; and Dr. John S. Peete, of Tipton county, commissary.

The Company who have undertaken to build the road to Covington could easily build it with their own unaided resources, and equip it if necessary after being built.

The aggregate of cost will fall considerably within the estimates of Capt. Millington, the Chief Engineer. The work will be commenced at an early day in the ensuing month, and is required to be completed within eighteen months.

The road was projected to run through the county seats of the river counties lying north of Shelby, and in starting out on the first division, Capt. Millington received as his only instruction from the Directors, the order to find *as nearly an air line as practicable from Memphis to Covington.* The result of his work is, that the located line from Memphis to Covington, about thirty-six and a half miles in length, exceeds the air line between these points exactly 471 feet. Taking the irregular and very difficult topography of the intervening country into account, it may safely be said that a more signal triumph of engineering patience and skill has never been achieved in this country. And this is the highest praise that can be given to Capt. Millington and his able and faithful assistants.

NEW TENNESSEE RAILROADS.—We find the following in the *Trenton (Tenn.) Gazette*:—Some months ago we called the attention of the citizens along the line to the importance of a railroad from this place, via Eaton and Friendship, to Yellow Bluff, on the south fork of the Forked Deer river, a few miles below Chestnut Bluff. Here the Mississippi River Railroad crosses the Forked Deer, and it is proposed to tap it here with a branch from this place. This branch will be about twenty-three miles long with easy grades; the country through which it is proposed to locate the road being comparatively level. We are gratified to learn that the whole people on the proposed route are aroused to a sense of its advantages, and will subscribe the stock to grade the road and put the wooden superstructure upon it. They have already subscribed the amount sufficient to survey the road, and Col. A. S. Mitchell, President of the Mississippi River Railroad, will soon have a corps of engineers upon it, and locate it to this place. State aid to purchase the iron has already been secured, and the tax voted by Dyer county would be equitably divided between this branch and the main trunk.

There is an effort being made to build a railroad from Brownsville to Newberne, Dyer county, but this route could in no way subserve the interests of the people of Friendship, as neither one of its termini affords suitable markets or outlets for the products of the country. Memphis is the best cotton market for these people, and their interest is to reach that point by the shortest and most direct route, which will be effected by this branch.—*Trenton Gazette.*

—The rolling mill of Phillips & Son, on the Licking river, near Covington, was established in 1846. It is one of the largest establishments of its kind in the West, employing 250 hands and turning out \$600,000 worth of boiler plate, bolt and bar iron, per year.

LAKE SHORE & MICHIGAN SOUTHERN AND TOLEDO, WABASH AND WESTERN CONSOLIDATION.—The *New York Tribune* says of this: The consolidation of the Lake Shore & Michigan Southern Road has been agreed upon and attracts general interest. By this arrangement the Michigan Southern extends from Buffalo to the Mississippi River, and controls, including branch lines, 1,500 miles of road. The basis of consolidation is made at 120 for Michigan Southern and 100 for Toledo, Wabash & Western. The stock of the Toledo & Wabash Road does not receive any dividends this year, but after the first of January, 1870, will receive the same amount that is now paid on the Michigan Southern. The managers of the property claim that without any increase of earnings the property will pay 8 per cent on its new capital after providing for the interest and sinking fund accounts. The stock and bonded debt of the consolidated company will then stand as follows:

Present stock of the Lake Shore & Michigan Southern.....	\$35,000,000
Twenty per cent to be added.....	7,000,000
Toledo, Wabash & Western stock	8,000,000
Bonded debt of the Lake Shore & Michigan Southern.....	20,000,000
Bonded debt of Toledo, Wabash & Western.....	15,000,000
Total.....	\$85,000,000

The consolidated company will have on hand a large amount of assets transferred by the Cleveland, Painesville and Ashtabula Railroad Company, the Cleveland & Toledo and the Lake Shore & Michigan Southern Railway; also, about \$500,000 cash assets from the Buffalo & Erie. The consolidation will go into effect as soon as it has received the assent of the stockholders. Notice was given at the Stock Exchange this morning by the Lake Shore & Michigan Southern Railroad Company that in thirty days they will issue \$1,200,000 new stock; this stock is for the additional equipment necessary for the new consolidated company, and is included in the \$35,000,000 stock which the company contributes to the new company.

ST. LOUIS AND IRON MOUNTAIN RAILROAD.—The completion of the above road now makes a very important through route between St. Louis and the Southern States East of the Mississippi. The *Western Railroad Gazette* says:

By this new route the distances from St. Louis to the following towns of the South and South-east are as follows:

	Miles.
Belmont.....	195
Jackson, Tenn.....	251
Memphis.....	347
Jackson, Miss.....	540
Vicksburg.....	585
New Orleans.....	723
Mobile.....	667
Nashville.....	377
Chattanooga (via Corinth).....	554
Chattanooga (via Nashville).....	528
Atlanta.....	666
Macon.....	769
Augusta.....	837
Savannah.....	959

—The Allentown Iron Works, at Allentown, Pennsylvania, burned on Tuesday. Loss, \$300,000. One thousand men are thrown out of employment. The Works paid out \$15,000 in wages every month.

Georgia Mines and Furnaces.

The correspondent of the *Atlanta Constitution* accompanying the Georgia press excursion reports as follows:

VULCAN IRON WORKS.

These works (near Chattanooga) are owned by a Southern company, principally New Orleans men. S. B. Lowe is the superintendent. The establishment contains six puddling furnaces, four heating furnaces, two trains of rolls, and a tremendous steam hammer. Their working capacity is twenty tons per day, and they work day and night. They use pig iron from several furnaces, among which are the Grantville, Tenn., Rockwood, Tenn., (Wilder's establishment,) and Noble's near Rome, Ga. This is the best iron used, as it is very nearly neutral.

One-third of this iron in a charge will neutralize the whole charge. They work up also all sorts of scraps of iron, both cast and wrought. They make all kinds of merchants and bar iron, rail, rods, bridge, bolts, car axles, etc. They build freight and box cars, doing all the wrought iron work in the mill. They employ from ninety to one hundred and twenty-five hands, and intend making considerable enlargements soon.

ETNA COAL MINES

Are owned by a New York Company, called Raccoon Mountain Iron and Coal Company. J. C. Hazelton, of New York, is President; Milo Pratt, of Chattanooga, Agent. The capacity of these works is about 90 tons per day, or 2,000 per month. They are the best mines in Tennessee, it is thought. The diameter and the ventilation of the shafts are very fine. The ventilation is accomplished by means of furnaces. The coal bed is about three to four feet, in some places as thin as twenty inches, and in some reaching seven feet. All the coal is saved and the slack is made into coke. The coke from this mine has the best reputation of any market. It is worth from twelve to fourteen cents per bushel.

The coal costs about \$3 45 per ton, or 13½ cents per bushel, delivered in the cars. The working force is 125 men, of whom 43 are miners. The whole mining force is imported from the northern part of England; and the agent informed me that they were the best and most courteous workmen he had ever handled. A party of ten were imported a few days ago. Their wages are from three to five dollars per day. The coal is sold for 13½ cents a bushel, at the works. The principal markets are the Southern States. These works were founded in 1855, and over \$250,000 were expended on them. The composition of the coal is this: Carbon 73, gas 21, ashes 3.50, sulphur .071, and balance moisture. This is very fair coal, and contains a remarkably small amount of sulphur. The proprietors of these works, as of all that we have noticed yet, seem intent and determined on continually enlarging their works, and are devoting most of their profits in that direction—a comfortable sign. The coal does not carry well, and hence is not very desirable for domestic use; but being almost entirely free from clinker, and giving great heat, it is splendid for the use of manufacturers. Almost every mill and factory in the State, as well as East Tennessee, use this coal, and will have no other. "Give us Pratt's coal," say they all. These mines are about a mile and a half from the railroad, near Whiteside station. They are situated upon the top of the moun-

tain, and are reached by a train of cars which are moved by a stationary engine. The grade is about 500 feet to the mile. There are two tracks laid, and as one loaded train is coming down the plain, pulled by gravity, it pulls the other up.

HOWARD IRON WORKS.

These works are a mile and a half from Kingston, immediately upon the Western and Atlantic Railroad, and are the most complete of the kind in the South. Over 1,400 bushels of lime are sold from them per week—200 bushels per day. A force of over thirty-five men are regularly employed here. The quarry is inexhaustible. After being worked for twenty-five years, it is now just opened. Col. Howard informed us that after the quarry had been worked eight feet deeper, the hydraulic cement now being worked, will be superseded by the pure, white, bird's eye lime. The works are not making cement there now, as the machinery was destroyed during the war. Transportation can be had for the lime, on the Western and Atlantic Railroad, for two cents a mile per ton. This brings it within reach of all the cotton planters, as it can be bought at the mill at thirty six cents per bushel.

Col. C. W. Howard being called upon made the following interesting remarks:

"After leaving Atlanta, the first mineral interest is found in the Alatoona hills. Here is one of the best gold formations in Georgia. Large capital has been invested in these gold mines, but there is some difficulty in the profitable reduction of the ores, and other difficulties in regard to titles, which have impeded the development and profitable working of these mines. Besides gold, plumbago, or black-lead, is found in workable quantity immediately on the line of the Western and Atlantic Railroad. Just before reaching the railroad bridge, you passed a remarkable quarry of elastic sand stone. This is the matrix of the diamond. It is unaffected by the most intense heat. Hence you saw it transported to the furnaces of Chattanooga, a distance of more than one hundred miles.

"Immediately after crossing the railroad bridge, you enter the blue limestone country. On the right of the road, you observed the remains of a railroad track. This road, running about five miles, afforded transportation for the immense iron works which were of so great value during the war, known as Cooper Iron Works. This is a magnificent property, now idle. The falls on the Etowah river, on this property—80 feet—are sufficient to run more than the Lowell machinery, without fatiguing the water.

"Before the war, there were five iron furnaces in blast in Bartow county. Now there are two—the rest idle for want of capital. To the east of Cartersville, manganese is found in large quantities. This is being shipped to Europe via Baltimore.

"To the North-east, and within eighteen miles of the railroad, is a large body of alum slate, a mile long and twenty to thirty feet high.

"Still further to the North-east are the white marble quarries of Pickens. This is beautiful crystalline marble of vast extent, but perhaps too far from the railroad to be worked to great profit.

"The county still further North-east takes in a valuable gold, copper, and iron region. But of this I do not speak, because our business, at present, is with the region from which the Western and Atlantic Road offers transportation.

"To the South-east are the Van Wert mineral formations. These are slate, iron, and secondary marble, and will have an outlet by the Van Wert Railroad, some twenty miles long.

"The next station is Kingston. The attraction about this village is the lime, steam saw mills, and water power; the latter in great number. Six thousand bushels of lime per month are shipped from this point, as also, daily 16,000 lbs. of flour, and a very large amount of lumber. Want of capital alone prevents Kingston from being a place of importance.

"It is to be regretted that our party passed over the railroad from Kingston to Rome at night, as it probably passes through a larger quantity of good land than is traversed by any railroad of the same length in the United States.

"Of Rome I say nothing, as you have seen it and enjoyed the hospitality. Nichols, in his mendacious romance of Sherman's grand march, told at least one truth, when he said that Rome, next to New Haven, was the prettiest town, as to situation, in the United States.

"I need say nothing of the beautiful Coosa, and the iron works upon its banks, as you have seen them. But North of Rome, and North-west from Kingston, there is a section of country, including Floyd, Chattooga, Walker and Dade counties, of great interest. Along the foot of Lookout Mountain, there is a coal field of 20 to 30 miles in length—what the depth of the seams are I do not know. In Lookout Mountain, and Taylor's Ridge, and John's Mountain, are large beds of excellent Hematite iron ore. Excellent slate is found in John's Mountain. This valuable mineral region extends from Rome to Tennessee. The State Road must extend one of its arms North west from Kingston, and thus bring coal within 100 miles of Atlanta.

"The best indications of petroleum that I have seen anywhere, are found for twenty miles along the Coosa and Oostanaula rivers. In many cases the limestone, when broken is offensive from the smell of oil.

"The development of all this invaluable region requires only the lateral extension of the Western and Atlantic Road."

ELKHART AND LAKE MICHIGAN RAILROAD—The election of Directors and officers of this new enterprise took place at Berrien Springs last week. The *Niles Democrat* reports the following result:

President—Hon. Franklin Mazzz.

Directors: Messrs. Colby, Platt and Larimore, Niles City; Daugherty, Graham and Kephart, Berrien Springs; A. L. Burk, Berrien township; Wm. Smythe Farmer, Pipestone; Martin, Morton, Bronson and Riford, Benton Harbor.

Resolutions were adopted to the effect that work should commence on the road at once.

—A meeting was held at Ann Arbor on the 23d of Aug., at which the following resolution was adopted:

Resolved, That we pledge our best endeavors to procure a vote of the city of Ann Arbor, at an election to be regularly called, appropriating \$100,000 in aid of a railroad from Toledo via Ann Arbor to Saginaw, and also to a stock subscription of \$50,000.

Other resolutions were passed, and committees were appointed, which indicate that Ann Arbor is wide awake on the subject.

Railroad Items.

—The Commissioner of Internal Revenue has decided that the practice of railroad companies, canal companies, banks, insurance companies, and other corporations which are required by law to withhold and to pay over to the United States a tax of five per cent on all dividends, interest, coupons representing interest, surplus and contingent fund, &c., of treating said amounts as expense of business, and deducting them in all returns where expenses are deductible, is wrong, and can not be allowed; that the amounts thus paid are not an expense of business, and no such return should be accepted until the Assessor is convinced no deduction of the kind has been made.

MUNCIE, September 4.—The last spike connecting the Fort Wayne, Muncie and Cincinnati Railroad south, with the Bellefontaine road at Muncie, was driven at 5 P. M., by D. T. Hames, Vice President of the Fort Wayne, Muncie and Cincinnati Railroad, and J. W. Burson, a director of the Bellefontaine road. The construction train passed from the new road to the Bellefontaine, amid the cheering of a large assemblage of the citizens of Muncie, who witnessed the ceremonies of driving the last spike. The direct line from Muncie to Cincinnati is now completed. Work upon the new road north of Muncie is being pushed rapidly.

—In the case of N. A. Cowdrey and others vs. the Galveston and Houston Railroad and others, Justice Swayne of the Supreme Court at Washington last week made a decree holding the railroad, etc., of the old company subject to the mortgages, and dismissing that part of the complaint which claimed the property of the successor company, and an individual liability of the defendants. Both parties take an appeal to the Supreme Court. Mr. Cowdrey, representing the bondholders, is placed in possession of the railroad until the appeals are determined, he giving security to account for the rents and profits while in possession.

—The Atlantic and Gulf Railroad, Central Railroad and Banking Company, the Southwestern and other railroads, have joined in a bill of complaint, and applied for an injunction against the Brunswick and Albany Railroad and N. L. Augier, State Treasurer. The object is to arrest the construction of the Albany and Brunswick Railroad, and to restrain the State Treasurer from indorsing its bonds, on the ground that the road would infringe the vested rights and privileges of the complainants, and that the State aid would be unconstitutional, etc. Judge Schley has granted the injunction. —*Memphis Avalanche*

—The suit against the Greenville and Columbia Railroad Company of South Carolina, for the foreclosure of the mortgage upon their road, brought by certain holders of their first mortgage bonds, has been settled to the mutual satisfaction of all parties concerned, and an order has been made by the Court, now in session (at the suggestion of the suing creditors), dismissing the bill. There is now suit against the company by any mortgage creditor, nor is there any judgment against them obtained in the courts of law.

—A transfer boat has been obtained, and river approaches prepared at Columbus and Belmont, so that passenger and freight cars can be taken over the river as they are at Detroit and St. Louis, and were until lately at

Dubuque, Burlington and Quincy. Only one railroad, the Mobile and Ohio, reaches Columbus, but this one within a short distance connects with others to Nashville, Memphis and New Orleans, which by their connections make nearly every railroad in the South, east of the Mississippi river, accessible to cars from St. Louis.

—Work on the South & North Alabama Railroad is progressing rapidly; about 600 hands are at work between Montgomery and Lime-kiln, the point where the line intersects the Selma, Rome & Dalton Road. This North & South road will connect Decatur, Ala., with Montgomery; affording all rail communication between Chicago and Mobile, as soon as the bridge is completed over the Ohio at Louisville, which will be some time this year. The line passes through the rich mineral regions of Northern Alabama.

—The Savannah, Griffin & North Alabama Railroad is assuming a life-like condition. This line runs from Griffin, Ga., on the Macon & Western road, to a point, as yet undecided, connecting with the road from Chattanooga to Memphis. It will pass through the rich mineral regions of North Alabama and some fine cotton lands in that State and also in Georgia. A large amount of grading was done on this line before the war, and the first twenty miles will soon be under contract.

—At the meeting of the directors of the Chicago and North-Western Railroad Company, Mr. Alexander Mitchell of Milwaukee was elected President in place of the late Henry Keep. Mr. John E. Williams, President of the Metropolitan Bank, was elected a director of the Company at the same time. Mr. Mitchell is President of the Milwaukee and St. Paul Railway Company, and also owns the Western Union Railroad.

—An Atchison (Kansas) telegram says: "The contract for the Nemaha Valley Railroad has been let—ten miles to be completed by the 15th of next February. The road is to be finished to Pawnee City in eighteen months. This is an outcrop of the Quincy and Keetsville road, and diverts the business of Southern Nebraska to Chicago, instead of St. Louis.

—The St. Joseph & Denver Railroad Company has sold its land grant of 100,000 acres for a dollar and a half an acre—all to one corporation. The proceeds are to be applied to raising an old mortgage on the road, and enable the company to give a first mortgage as security for a new loan, by which money is to be obtained to extend the road to Hiawatha.

SAN FRANCISCO, September 5.—By the completion of the Western Pacific Railroad, on Monday, cars now travel continuously from the harbors of New York or Boston to the harbor of San Francisco. Arrangements have been made for carrying through passengers and mails between Sacramento and San Francisco without transhipment.

—The iron is laid on the Selma & Montgomery Railroad from Montgomery to the Tallahassee, seventeen miles. It is expected to reach Lowndesboro by the middle of September. This road, when completed, will supply the missing link in an east and west route from Savannah to Vicksburg.

—The earnings of the Central Pacific Railroad for August were \$57,200, showing a steady increase on passengers and freight since the opening of the through line.

—The Western roads all show a large falling off in earnings, with the exception of the Rock Island Road, which shows a small increase as compared with last year, but as they have added 150 miles to their road within that time, the earnings are really below those of the previous year.

—B. E. Wells, Chief Engineer of the Memphis and Savannah Railroad, advertises for proposals to furnish lumber, masonry, etc., to complete the first twenty miles of the above railroad, commencing at Opelika, Ala. The contract will be let on the 1st of September.

—The net revenue of the Santiago and Valparaiso Railway for the month of June was \$29,445 29. At Santiago the Council resolved to present a bill authorizing the President to raise a loan of \$4,000,000 on account of the Chillan and Talcahuano Railway.

—Ground has been broken near Hagerstown, Md., for the extension of the Franklin (Cumberland Valley) Railroad from Hagerstown to Williamsport. The distance is seven miles. Major Watts is Chief Engineer.

—Two-thirds of the piles of the Delaware, Lackawanna and Western Railroad bridge over the Hackensack are driven. It is expected that cars will be running between Paterson and New York by Nov. 1.

—Wm F. Holwill of Hoboken has been appointed General Ticket Agent of the Morris and Essex Division of the Delaware, Lackawanna and Western Railroad.

—The laborers of the Delaware, Lackawanna and Western Railroad are chiseling the trap rock under Garret Mountain and along the Morris Canal.

—The new surveys of the Montclair Railway run the road through Little Falls, but direct it four miles from Paterson.

—Platte County, Nebraska, has voted unanimously to donate \$80,000 to the Columbus and Sioux City Railroad.

—Four locomotives were sent to Alabama and to Missouri railways from Paterson New Jersey last week.

PANAMA, Aug. 9.—The new railroad is being proceeded with very energetically.

—The Erie Railroad has adopted a compressed air railroad brake.

—The Clinton and Massillon Railroad is progressing rapidly.

EXPORTS OF RAILWAY IRON.—The total quantity of railway iron exported from the United Kingdom in June was 95,039 tons, as compared with 62,773 tons in June, 1868, and 52,640 tons in June, 1867. The exports of railway iron to the United States showed some little decline in June, but there was a great expansion in the shipments to Russia; there was also some increase in the Canadian and Australian demand. The aggregate exports of railway iron from the United Kingdom for the six months ending June 30 this year were 415,784 tons, as compared with 296,542 tons in the corresponding period of 1868, and 251,927 tons in the corresponding period of 1867. The great customers for our railway iron are Russia, the United States, and India. Russia took 86,786 tons to June 30, this year, against 20,214 tons in the corresponding period of 1868; the

United States 168,348 tons, against 148,544 tons; and India 37,199 tons, against 49,494 tons. The value of the railway iron exported from the United Kingdom in June was £790,729 against £505,232 in June, 1868, and £469,466 in June, 1867; and in the six months ending June 30 this year £3,271,323, against £2,314,262 in the corresponding period of 1868, and £2,096,281 in the corresponding period of 1867.

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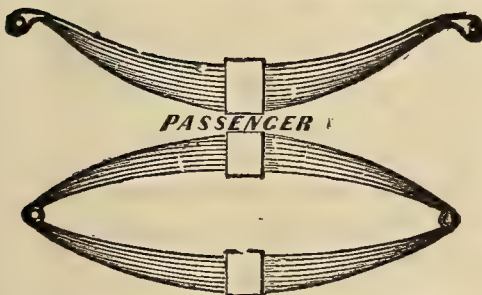
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SURVEYOR'S COMPASSES, TRANSITS, LEVELS,
DRAFTING INSTRUMENTS, &c.,

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Also Brass Castings and Models made for Patent office.

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Chilled Wheels and Tyres

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MACHINERY OF EVERY DESCRIPTION

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1400 MILES under One Management. 860 MILES without Change of Coaches.

BROAD GAUGE, DOUBLE TRACK ROUTE FOR—

NEW YORK, BOSTON,

Providence, Albany,
PITTSBURG, HARRISBURG

Philadelphia, Baltimore,
And Principal Points in

NEW YORK, NEW ENGLAND

—AND—

Pennsylvania.

This Railway extends from

CINCINNATI to NEW YORK, - 860 Miles.
CLEVELAND to NEW YORK, - 625 Miles.
DUNKIRK to NEW YORK, - 460 Miles.
BUFFALO to NEW YORK, - 423 Miles.
ROCHESTER to NEW YORK, - 385 Miles

AND IS FROM

22 to 27 MILES the SHORTER ROUTE.

TWO EXPRESS TRAINS DAILY

Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS, (Sundays excepted.) Arrive Dayton 9 10 A. M.; Urbana, 10.28 A. M.; Galion, 1.00 P. M.; Mansfield, 1.41 P. M.; West Salem, 2.47 P. M. (Dine); Akron, 4.22 P. M.; Ravenna, 5.00 P. M.; Meadville, 8.00 P. M.—(Sleeping Coach through to New York); Susquehanna, 7.55 A. M. (Breakfast); Turner's, 1.42 P. M. (Dine); New York, 3.00 P. M. Connects at Ravenna with Cleveland & Pittsburg Railroad for Hudson and Cleveland; at Birmingham for Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS, daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.25 A. M.; Galion, 4.05 A. M.; Mansfield, 4.50 A. M.; Akron, 7.32 A. M.; Ravenna, 8.16 A. M.; Leavittsburg, 9.00 A. M. (Breakfast); Meadville, 11.30 A. M.; Hornellsville, 6.14 P. M. (Supper); New York, 6.30 A. M. Connects at Mansfield with Pittsburg, Ft. Wayne & Chicago Railway for Pittsburg, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities.

New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through 860 Miles without Change.

Boston and New England Passengers, with their Baggage, are transferred **FREE OF CHARGE** in New York.

The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

Baggage Check'd Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY,

Which can be obtained at the Company's Offices in Cincinnati, 80 West Fourth Street 115 Vine St. 4 Burnet House, and foot of Broadway. (Spencer House Block) and at all principal Ticket Offices in the South and South west.

L. D. RUCKER, General Sup't.

WM. R. BARR, Gen'l Pass'r Ag't.

GRAND SCENERY! QUICKEST ROUTE

59 Miles in Distance Saved.
Baltimore & Ohio R.R.

—TO—
**BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,**

WITH THE PRIVILEGE OF GOING TO
WASHINGTON
FREE!

NO CHANGE OF CARS
From Cincinnati to **Baltimore** and but ONE CHANGE to
Philadelphia and New York.

Ask for TICKETS and **Baltimore & Ohio R.R.**
BAGGAGE CHECKS via

J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
G. B. GIBSON, General Western Passenger Agent.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City	7 00 A. M.	9 20 P. M.
Toledo & Detroit	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail	7 00 A. M.	5 25 P. M.
Richmond & Chicago	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada	6 00 P. M.	10 30 A. M.
Hamilton Accommodation		6 45 A. M.
Richmond & Chicago	7 00 P. M.	9 20 A. M.
Hamilton Accommodation	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at
head office, south-east corner of Broadway and Front; Bureau
et House Office, corner Vine and Baker streets, and at the
respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.

JANUARY 5th, 1868.

*Cincinnati to St. Louis Without
Change of Cars.*

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph
Jefferson City, and all points on the Lower Mis-
sissippi River, and on the Illinois
Central Railroad.

RAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave	12 20 p.m.	2 10 "	
Arrive VINCENTES	5 15 "	6 35 "	
Leave	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave	9 45 "	10 40 "	6 30 a.m.
Arrive SANDOVAL	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O'H.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine
street, Corner Front and Broadway; and at Depot, Foot
Mill Street.

O. E. FOLLET, Gen. Passenger Agent
J. W. CROGUE,
General Superintendent

Best Route to St. Louis and Chicago

INDIANAPOLIS, CINCINNATI —AND— LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS, CAIRO, CHICAGO,

Memphis, New Orleans, Springfield, Quincy
Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West,
North west and South-west.

ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS
WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail	6 30 am	12 30 am
St. Louis and Springfield Express	3 35 pm	8 20 am
St. Louis and Springfield Express	1 35 pm	3 30 pm
Lawrenceburg Accommodation	10 00 am	2 35 pm
Lawrenceburg Accommodation	4 45 pm	8 05 am

*The 10.35 pm. train will leave Sundays, but not on Sat-
urdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail	7 00 am	10 00 am
Chicago Express	6 20 pm	9 40 pm
Harrison Accommodation	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnet House
Office, corner of Third and Vine; River Office, corner of
Walnut Street and River; and at Depot, corner of Plum
and Pearl streets. The splendid Passenger Depot of the
I. & C. Railroad is about a mile nearer the business center
of the city than the Depot of any other railroad, and within
a few squares of the Postoffice and principal hotels and
Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

Philadelphia, Wilmington & Baltimore RAILROAD!



FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

1.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
(Express); 2.30 P. M.; 11.30 P. M. night.
On Sundays 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West 7.35 A. M.; 7.20
A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore
at 4.15 A. M. and 11.00 P. M. Leave al-
timate for Philadelphia at 8.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave
Wilmington for Philadelphia at 8.30 P. M.

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAIL-
ROAD, in connection with the Cincinnati, Hamilton &
Dayton, and Little Miami Railroads, still continue to trans-
port produce and merchandise between Cincinnati and
Pittsburg, Philadelphia, Baltimore, New York or Boston,
and all Eastern points with the greatest promptitude and
dispatch.

For Rates, Bills of Lading, or any information desired,
shippers will please apply to

H. W. BROWN & CO.,
No. 27 West Third Street, Cincinnati.

W. P. SHINN, General Freight Agent.
Pittsburgh, Pa.

LOUISVILLE & CINCINNATI SHORT-LINE RAILROAD.

Time only 5 hours

**Fare Only \$3.50—Transfer from Hotel or
Residence to Depot, in Covington, Free.**

THE SHORTEST ALL-RAIL ROUTE TO
Louisville, Nashville, Memphis, New
Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail	7:00 A. M.	2:30 P. M.
Evening Express	5:45 P. M.	9:10 P. M.
Walton Accommodation	4:00 P. M.	9:30 A. M.

The 7:00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
the Walton Accommodation, offer great inducements to the
citizens of Cincinnati and Covington who wish to pur-
chase country residences or small farms for gardening.
This train leaves late in the afternoon, and arrives early
next morning, giving all day to attend to business. For
further information as to routes, low fare, &c., please apply
at No. 1 Burnet House, or Depot, Covington, Ky.

SAM'L GILL, Gen'l Supt. Louisville.

CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Lib-
erty st., connects at Hampton Junction with the Dela-
ware, Lackawanna, and Western Railroad, and at East on
with the Lehigh Valley Railroad and its connections,
forming a direct line to Pittsburg and the West, without
change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago,
Cincinnati, St. Louis, etc., with but one change of cars.
Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as
follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk,
Williamsport, Wilkesbarre, Mahoney City, Tuckahoe, &c.
7:15 a. m.—For Somerville.
8:30 a. m.—For Flemington Junction, Stroudsburg,
Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.
12 m.—For Flemington, Easton, Allentown, Mauch
Chunk, Wilkesbarre, Reading, Columbia, Lancaster,
Ephrata, Lititz, Pottsville, Scranton, Harrisburg, &c.
3:30 p. m.—For Easton, Allentown, Mauch Chunk
and Belvidere.
4:30 p. m.—For Somerville.
5:25 p. m.—For Somerville and Flemington.
6 p. m.—For Easton and intermediate stations.
7 p. m.—For Somerville.
7:20 p. m.—EMIGRANT—Stopping only at the principal
stations.
9:00 p. m.—For Plainfield.
11:50 p. m.—For Plainfield, on Wednesdays and
Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays.)
for Easton, Allentown, Harrisburg, and the West without
change of cars to Cincinnati or Chicago, and but one
change to St. Louis. Connects at Harrisburg for Erie and
the Oil Regions. Connects at Junction for Stroudsburg,
Water Gap, Scranton, &c. Connects at Phillipsburg for
Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Satur-
days.) for Easton, Bethlehem, Allentown, Reading, Harris-
burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars
to Pittsburg and Chicago. Connects at Junction with
Delaware, Lackawanna and Western Railroad for all sta-
tions to Scranton. This train will be run to Easton on
Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,
Allentown, Reading, Harrisburg, Pittsburg, and the West
—connects at Harrisburg with train for Williamsport, Erie,
&c.

Sleeping cars through from Jersey City to Pittsburg
every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15,
8:15, 8:30, 9, 9:20, 10:30, 11:00 a. m.—12 m., 1:0, 2:0
3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25,
7:0, 7:12, 7:40, 8:0, 9:00, 9 40 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the
Central Railroad of New Jersey, foot of Liberty st., N. Y.;
at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at
No. 10 Greenwich st., and at the principal hotels.

R. E. RICKER, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

H. D. MANSFIELD, - - - - } Editors.
T. WRIGHTSON, - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, SEPTEMBER 16, 1869 -

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
" " per month.....	5 00
" " six months.....	15 00
" " per annum.....	25 00
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" " six months.....	55 00
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" page, single insertion.....	25 00
" " per month.....	32 00
" " six months.....	135 00
" " per annum.....	250 00

Cards not exceeding four lines, \$7 00 per annum.

WRIGHTSON & CO., Props'rs.

The Record and the Railroads.

A fortnight ago the big dailies announced to us that at the Merchants' Exchange, the children of Cincinnati, (meaning those of our citizens who are financially young and green) could see the engineering instruments, including, bright axes, for the preliminary survey of the proposed Southern Railroad. Will our friend WRIGHTSON inform us for how many railroads that broke down, he has been instrumental in procuring stationery, instruments, axes, &c. ?—*The Commoner*.

By accident, this paragraph met our eyes, and it was suggestive of many things, and especially of how little credit (we need not say how little reward) men of public spirit and generous impulses need ever expect for any effort in behalf of the public interests. The editor of the *Commoner* is a gentleman from whom some sympathy with, if not some justice towards, those who labor for the public good, might be expected. Yet this paragraph shows exactly how little he has of either. We will answer his question directly, and accompany it with some comments, which, perhaps, under such a spur we have the right to make.

1. We do not remember to have furnished any instruments, axes, etc., to any roads. Printing we have done for different companies; and we have thought, that if they had paid us ten times as much for it, it would have been little more than common justice to those who have spent a large portion of their time and means in forwarding railroad interests.

2. We have not aided more than one or two "broken down" railroads, and they certainly did not break down for want of any effort of ours to sustain them. We have aided, if argument and reason and encouragement can aid, some unfinished roads, and some which we hope may yet be completed.

3. But, the number of those we have en-

couraged, and are yet unfinished, are small compared with those we have aided and are complete, successful and prosperous.

We beg leave to give some reminiscences on this head, for if others forget our labors in the public service, we can not forget them ourselves:

In days when people had no more confidence in the Pacific railroad, than they had in railroads to the moon—except only some few long-sighted persons—we urged the construction of that road, and argued what the public are very slow to believe now. That it was entirely practicable at a moderate expense—that the Government ought to make it for its own purposes, and that the time would come when it would be in itself immensely profitable, and become a great artery of commerce.

Such was our position, when few believed these things possible. The two first points have been proved. The road has been made at a comparatively moderate cost. It is in full operation; and it is of great value to the Government, saving two-thirds the cost of transportation for munitions and provisions for the army, without which it could not have accomplished the results it has in the Indian country. But, this is not all. We have urged and do urge the construction of three, and partially of four Pacific roads. We urged the construction of the Kansas Pacific road, and now urge that the Government should continue to aid it until it reaches the Pacific. It is now making the Denver branch, but we hope will be aided by the Government to make the road through New Mexico, and by the lower Colorado to the Pacific. In that case, the western part will become the great trunk for the Southern roads to the Pacific.

Nor is this all, we urged and do urge the immediate construction of the Northern Pacific, without which the immensely valuable country on our northern border will never be developed, nor the great basin of the Northern Lakes find a sufficient outlet to the Pacific.

Nor is this all. Long before there were any real hopes of making the Central Pacific, we urged and worked for the Southern Texas Pacific, and had the South been true to itself, that road would have been long ago made, and much of the southern country been improved which is now comparatively desolate.

Though we never furnished "instruments or axes" for that object, we did do an immense amount of printing, and a great deal the cost of which was never repaid. We supplied Congress with great numbers of documents of all kinds with a view to get Government aid for Southern railroads, and we are ashamed to say, that we failed, if not from the dishonesty, at least from the bad reputation of those engaged. The able, and we may say the good men of the South, thought it was better and wiser to begin a war of paper obstructions, and finally of open rebellion against the Government, than to gain friends, and improve

their country. They have got their reward. They have failed in their scheme of policy, and they have failed in the Southern Pacific railroad. But we have been the steady friends of that and all other public improvements.

We are now trying to get a Southern railroad from Cincinnati to unite with the Southern system of roads. This road must necessarily go through Kentucky. The Record may never gain anything by it. Indeed, we are hopeless that any act for the public good; any voice raised in the public behalf; any generous emotion for others, will we receive one dollar of reward, or one word of thanks. We have labored without either, except when here and there an individual has kindly sympathized with us.

But, though the Record may derive neither reward or thanks from such an enterprise, we can not see how the State of Kentucky can fail to reap great rewards from such a work. We believe it is admitted that railroads are of benefit to any country through which they pass, and if they can be made by the capital of other people, this benefit is had without cost or trouble. If the Southern Railroad can be made even by the hands of its greatest enemies, it must benefit Kentucky. Why can she possibly object to it? And why should the *Commoner* object? Why should anybody object to a good thing when it costs them nothing? The *Commoner* is classical, and sets a good example to the youth of these days by not wholly forgetting its Homer and Virgil. It says:

"And Kentucky is tickled at doings, which should be taken as a warning, and which she takes as a frolic. When will the Southerners learn their real peril?"

The old proverb has it: "*Timeo danaos, et dona ferentes.*"

And why should not Kentucky be tickled? And when will Kentucky—when will the South ever learn wisdom? If they are to regard the people north of the Ohio as Greeks or foreigners—those in whom they have no interest? Is that the spirit which is likely to unite the people and harmonize kindred communities? Or, is war so great a blessing, that it is thought desirable to renew old animosities, old oppositions and jealousies? We are not Greeks. We are not enemies. It is almost impossible that there should be any real benefit to either Louisville or Cincinnati, which is not a benefit to the other.

But, the *Commoner* wants to know why Col. GUNN should make surveys when he made one formerly? This is a pertinent question. One of the real difficulties which lie in the way of the Southern road is the route it shall take. Twenty counties in Kentucky claim that the best route is through them. This is a point to be determined. And moreover, it is absolutely necessary the route should be located and estimated correctly in order to know what the whole work will cost, and to particularly point out where

it is to go. When the City Council fixed Chattanooga as the Southern terminus, it was a sort of generalization which would be equally true if it went through Bristol or Knoxville, for there is a direct road to Chattanooga through both points. The general idea was that the route by Burnside's Point to Chitwoods was the best, but it is not certain; and moreover, by that route the road must go through the Eagle pass—a point common to both Knoxville and Chattanooga. It is, therefore, wise to make most accurate surveys of all routes to begin with, and it is not certain that Cincinnati will need more than half the money she has voted, if steps are carefully and prudently taken in the beginning.

Baltimore and Ohio Railroad.

STATEMENT OF ITS NEW ALLIANCES AND CONNECTIONS—INCREASED EARNINGS.

[From the Baltimore Sun.]

At the regular monthly meeting of the board of directors of the Baltimore and Ohio Railroad Company, at Camden Station, yesterday, President Garrett made the following statement in reference to the business of the road:

Within a brief period the relations of the Baltimore and Ohio Company have so materially changed, and openings for a great increase of the business of Baltimore with extensive and important regions have been so effectually secured by new connections, combinations and contracts formed in the West, that a statement in reference to the agreements and their effects will doubtless prove interesting.

The board will remember that on the 1st of July the contract with the Sandusky, Mansfield and Newark Railroad Company went into operation. That line is 116 miles in length, extending from Newark on the Central Ohio division, to the city of Sandusky, on Lake Erie. Passing under the charge of this company permanently, it is now known as the Lake Erie Division of the Baltimore and Ohio Railroad. This road extends through five of the richest and most important counties in the State of Ohio, namely: Licking, Knox, Richland, Huron and Erie. It passes also through a number of important places. It commences at the city of Newark, at the junction with the Central Ohio Division—This city, with a population of 9,000, has extensive manufactures and a large and increasing business.

The road passes through the prosperous and enterprising city of Mount Vernon, which contains a population of seven thousand. Within five miles of Mount Vernon is situated Gambier, the seat of the successful and distinguished institution, Kenyon College, the students of which and the adjacent population use this road as their chief avenue of communication. Mansfield, also upon the line, is a town of ten thousand inhabitants, with large establishments for various manufactures, and an active and large commerce. Besides these principal places, important towns are located at a number of points on the line—each of which has a fertile back country for its support.

The city of Sandusky is a port of entry, and possesses one of the best harbors upon the lakes. Its present population is fifteen thousand, which is rapidly increasing. Its traffic is large in lumber, wood, flour, grain, fish,

grapes, wine, &c.—Its manufacturing interests are varied and extensive. Heretofore Sandusky has been without direct relation with any Eastern seaport. Its trade has not, it is believed, for this reason, been developed to the extent to which it is legitimately entitled. With the improved and direct relation now established with the city of Baltimore—the entire line of railway (595 miles) being under one management—the cars transported through without break of bulk, combined with the conveniences and economy of shipment from this point by the regular lines of steamers to Europe, to the Atlantic, and especially to Southern ports, it is anticipated that the business of Sandusky will rapidly enlarge and improve. Such an additional direct outlet for the commerce of the great lakes to the city of Baltimore, with advantage to many great interests, will, doubtless attract a large increase to the commerce of the port of Sandusky.

The relations of the Baltimore and Ohio railroad, through the Marietta and Cincinnati road, under the contract which has recently been made with the Cincinnati, Indianapolis and Lafayette Railroad Company, are also proving of a highly interesting character. That road and its branches pass through Hamilton county, Ohio; Ripley, Decatur, Shelby, Dearborn, Johnson, Marion, Boone, Clinton, Tippecanoe, Franklin, Wayne and Henry counties in Indiana. All of which are populous and fertile, and afford a heavy and growing traffic.

It is strange that the chief difficulty which is alleged in transferring to Baltimore a large portion of the immense business of these counties, and also from the region of the Lake Erie division—counties which embrace a population of 600,000—arises from a want of knowledge of and relations with Baltimore merchants on the part of the business men of these sections. So little direct intercourse has heretofore existed with Baltimore that the Baltimore and Ohio Company, in securing these lines of communication, with preparations for the most economical transportation of an enormous business, will enable the merchants of Baltimore who will appreciate the advantages which they can thus control to transfer a most valuable traffic to this city which has heretofore passed to New York.

A number of our merchants have recently been induced to visit these important sections of Ohio and Indiana, and already business has commenced to flow to Baltimore in a much enlarged volume. With proper energy and enterprise, which will beyond doubt be exerted as soon as the subject is generally understood, a rich harvest of increased business for this community can beyond question be commanded.—These roads are equally important in their chains of connections. The main line of the Indianapolis, Cincinnati and Lafayette road is 179 miles in length. It operates leased roads from Fairband (95 miles north west from Cincinnati) to Martinsville, 53 miles; and from Valley Junction (18 miles west of Cincinnati) to Hagerstown, 70 miles; and from Cincinnati to Lawrenceburg, 25 miles, making an aggregate of 301 miles.

That company has also important and favorable contracts for through business with the St. Louis, Alton and Terre Haute roads, and will, under existing contracts, have similar arrangements with the new road between Terre Haute and the Indianapolis and the Vincennes line when completed.

In addition to these connections from Cincinnati, the Baltimore and Ohio Company has the most friendly relations with the Ohio and

Mississippi road, with which it is transacting a large reciprocal business between Cincinnati and St. Louis.

Amidst the tremendous efforts and conflicts of the past few months of the great Trunk lines, in connection with western business, the power and capacity of the Baltimore and Ohio road to maintain satisfactory results under its enlarged arrangements have been exhibited.

It is interesting to note that the revenues of the main stem and branches—which, in the corresponding month in 1868, were in the aggregate \$790,059 99, in the past month of August, notwithstanding the unprecedented difficulties in rates, amounted to \$1,036,244 29, exhibiting an increase of \$246,184 30. Of this amount, however, \$10,889 21 was derived from the Lake Erie division. Deducting this sum, an increase of \$205,295 09 is shown in the general business of the Company.

The company has made special efforts within the past year to afford increased facilities and advantages for the passenger business. Arrangements are in progress for further improvements.

The extensive building being erected at Mount Clare for the construction and quick repair of passenger cars is rapidly approaching completion, and large as they have been heretofore the facilities for this work will be materially increased upon the completion of that structure.—In May last, availing at the earliest practicable period of the completion of the arching of the tunnels on the Parkersburg branch, and of the improved condition of the Marietta and Cincinnati road, this company organized a fast line, running between Baltimore and Cincinnati in twenty-three hours and thirty minutes, a time unprecedented in the history of travel between these cities.

The facilities and economies which Baltimore now possesses in connection with its European steamship arrangements, and its lines of steamers to every important Southern port, continue to attract great attention in the West, as well as abroad. The company has been informed that a number of extensive houses which have heretofore had their relations almost exclusively with New York, are about organizing houses and branches in the city of Baltimore, in order to avail of the economies and advantages of this port. To add to and complete the advantages of this city, another enterprise, however, has been urged. Gradually the system of shipping the cereal products of the West unfound is taking the place of shipment of flour. In order to handle grain in the most economical manner it is being shipped, to a large extent, in cars *in bulk*, and this company has prepared a large number of cars, which pass through from distant points in the West without change to this city.

It is justly stated that the absence of a facility offered elsewhere—of an extensive grain elevator—is a disadvantage to this market.—Whilst it would seem that the enterprise of others should have, as we had hoped, supplied this requirement, yet, as an injurious delay is occurring, the president is prepared to recommend to the board that this company, in addition to its various and extensive works in progress, shall undertake to build a first-class elevator and thus furnish an essential facility for this important trade.

The value of the roads in alliance with this company, important as it is in their immediate and direct relations, extends much farther. In the case of the Lake Erie division it is

proper to state that the officers of this company have had the most full and satisfactory interviews with the authorities in the Lake Shore lines, and they assure us, in regard to the business of Philadelphia, Baltimore and Washington, that they are anxious to have the most friendly co-operation with this road. We, therefore, have close and satisfactory relations with the Cleveland and Toledo and the Michigan Southern and their connections, as also with the Toledo, Wabash and Western and its connections.

It is hoped that the extensive connections and arrangements perfected by the Baltimore and Ohio Company, with the advantages of economy and in net results to shippers, will lead to movements on the part of the mercantile interests, East and West, that will cause the business of Baltimore, largely as it has increased, to spring forward with a rapidity and in a volume not heretofore anticipated.

The company has continued not only to enlarge its equipments for coal tonnage, but has built largely of cars with compromise wheels to meet the requirements upon Western roads of a different gauge. Our arrangements to increase our equipment continue to be of a magnitude commensurate with the prospects of a constantly enlarging business.

Subsequent to the remarks of Mr. Garrett, upon motion of Mr. H. M. Warfield, the board unanimously adopted a resolution approving the suggestion of the president and authorizing the construction of a first class grain elevator upon the company's property at Locust Point.

PITTSBURGH, FT. WAYNE AND CHICAGO RAILWAY.—The books of this company have been closed for the purpose of calling in the old stock of the company, amounting to \$11,500,000, and issuing therefor new certificates to the extent of \$19,714,285 to be guaranteed by the Pennsylvania Railroad Company. By the terms of the lease of this road to the Pennsylvania Railroad Company, the latter company agree to pay an annual rental, for the term of 99 years, of \$1,380,000, in quarter-yearly instalments of \$345,000 each, viz: on the 1st days of April, July, October and January; this amount to be paid to the stockholders of the Pittsburgh, Ft. Wayne and Chicago Railway Company, free of Government or State taxes, or any other liability or incumbrance. The rental capitalized equals the sum for which the new certificates are to be issued; and upon these certificates regular quarterly dividends at 1½ per cent., free of Government tax, are to be paid.

DETROIT, HOWELL AND LANSING RAILROAD.—The engineer of this road has, with the concurrence of the President, made the following statement of its condition: Total length, 84 miles, viz: Detroit to Plymouth, 22.40 miles; Plymouth to Howell, 29 miles; Howell to Lansing, 32.60 miles. Of the 51.40 miles to Howell, 36 miles right of way has been donated, together with station lots, &c., amounting in value to \$46,400. The remainder of the right of way and station grounds at Detroit and vicinity will cost \$75,877, out of which has been paid \$29,752, and \$25,000 more is payable in instalments covering ten years, leaving a balance to be provided of \$21,125, with addition of \$4,500, making \$25,625 unpaid. The amount of earth-work completed is 499,969 cubic yards, and all the bridges, culverts and cattle guards on forty miles of road, 26,818 ties have been delivered, about 10,000 fence posts delivered, and nearly six miles of fence built. The total expenditure up to date amounts to \$199,471.

The South-western Railroad of Georgia.

The South-western Railroad of Georgia reports its gross earnings for the year ending July 31, 1869, at \$910,116 06, and its operating expenses, including taxes, as \$549,729.89, or about 60 per cent., leaving as net earnings the sum of \$360,386 18. Two four per cent. dividends were paid out of the year's earnings, leaving a trifling surplus. The receipts were \$10,000 less and the operating expenses \$28,000 less than during the previous year. The shipments of cotton were less by 75,000 bales than those of the previous year.

The South-western Railroad consists of a main line from Macon southward to Albany, 107½ miles; a branch from Fort Valley, 28 miles south of Macon, west to Columbus, 72 miles; a branch from Smithville, 83 miles south of Macon, west to the Chattahoochee, opposite Eufala, Ala., 59½ miles; and a branch of this last named branch, from Cuthbert 37 miles west of Smithville, in a south-westerly direction to Fort Gaines on the Chattahoochee, 19½ miles. Of the Columbus branch, the 51 miles east of Columbus was the old Muscogee Railroad, formerly leased by the South-western, but consolidated with it last October. The total mileage of the road is 258½ miles. It affords the only railroad route to South-western Georgia, except to the few counties in the extreme south which are reached by the Savannah & Gulf Railroad.

The South-western Railroad was leased on the 24th of June last to the Central Railroad and Banking Company, which owns the railroad from Savannah to Macon with a branch to Augusta, and several less important branches. By the terms of this lease, a dividend of seven per cent. annually is guaranteed on South-western stock, and when a dividend of 10 per cent. is declared on Central stock, there must be a dividend of eight per cent. on South-western, and in that proportion for larger dividends. The dividends of the Central have usually been 10 per cent., of the South-western 8 per cent. In order to make the fiscal year of the South-western (which maintains its organization) correspond with that of the Central beginning December 1st, a fractional dividend of \$2.50 per share will be made for the time between August 1 and December 1. Thereafter dividends on both stocks will be made regularly in June and December.

It is now reported that the Central Company will purchase or lease the Macon & Western Railroad, which extends from Macon to Atlanta. The people of Macon are very much opposed to these consolidations, believing that they will make their town a mere way station instead of the terminus of several roads. There can be no doubt however, that there will be great economy in operating the roads together; and if Macon suffers it will be because the surrounding country finds it more profitable to ship through to the seaboard than to make an exchange at Macon. The strongest objection made to the consolidation is on account of new roads from Brunswick to Macon and Albany, which could have obtained a heavy business from these roads if they had remained independent corporations.—*Western R. R. Gazette*

CLEANING FILES.—A new method of cleaning files that have become filled up by use, consists in directing a jet of steam, of about 40 lbs. pressure to the square inch, upon the surface for a few minutes. In a very short time all impurities are removed.

Paying Weights on Railways.

Mr. B. Haughton has published a paper read by him before the Civil and Mechanical Engineers Society in May last, entitled the "Paying and Non-paying Weights pulled by the Locomotive Engine in 1867," the object of which appears to be to prove that the average fares at present charged to passengers are fair and reasonable considering the amount of work actually performed in conveying them, the speeds at which they travel, together with the comfort and accommodation furnished, and that so long as the railway Companies adhere to their present tariff, the public have no ground of complaint. Mr. Haughton urges these views in defense of the existing system, in opposition to proposals which have lately obtained some hold on the public mind for a transference of the railways to the Government, and in vindication of the efficient manner in which the service of the railways is performed by the present officers entrusted with the duty of working and maintaining them.

Our first obligation before discussing the points in question is to acknowledge the valuable statistical information which the author has compiled, condensed, and reduced to items for reference and comparison. These statistics are taken from the returns of the Board of Trade for the last year published, viz., 1867, and we learn from them that up to that date there were 14,247 miles of railway made at a cost of £502,563,000, being at the average rate of £35 253 per mile. That during the year the traffic receipts amounted to \$39,480,000; the number of journeys was 287,688,000, average 12½ miles each; that 148,253,000 tons of goods, minerals, etc., were carried an average distance of 25 miles; that the distance traveled by the Locomotives was 148,542,827 miles; that 3,924,624 passenger trains, weighing 10,708,101,106 tons, were started, each traveling a distance of 19.08 miles, and 2,403,866 goods trains, weighing 14,804,545,302 tons, each traveling 30.64 miles; that this work kept 8,619 locomotives employed, each pulling 2,960,047 tons per mile, and each engine running 17,234 miles. The average distance run by each train per day was 23.47 miles, having an average weight of 165 tons, at an average speed of 26 miles per hour, the average power exerted by each engine being 205.92 horses, the whole power exerted by the engines being equal to 1,774,824 horses, working two hours per day, or 354,065 horses working the usual ten hours.

Mr. Haughton next investigates the paying and non-paying weights of which both the passenger and goods trains are made up, and the result comes out (so far at least as the passenger trains are concerned) even more unfavorably than is generally assumed. It has been calculated from previous statistics that about 1½ ton of dead weight is usually drawn for each passenger on an average, but Mr. Haughton shows it to be close upon two tons, or estimating the weight of one passenger with luggage at 2 cwt., the paying weight is about 5 per cent. of the gross weight of the train, while the paying weights in goods trains is about 30 per cent.; and he gives all this as a reason why the public can not hope for a reduction in the fares; he also urges the fallacy of comparing the railway fares in this country with those on the Belgian lines, first because those alluded to in the report of the Railway Commissioners are only the State railway, and were made by Government, who selected the most paying routes, that they cost but £18,000 per mile as against £36,-

000, the average cost of the English lines, that they were not saddled with parliamentary expenses, and that land and labor is cheaper there than in this country, all of which combine to make the lines at home more costly and to necessitate a higher tariff.

We can not, however, quite agree in all Mr. Haughton advances; the cost of land, labor, and Parliamentary expenses are all comprised in the total cost of the lines, and the £18,000 per mile quoted as the cost of the Belgian lines was for the lines alone, and did not include the equipment and other expenses, which altogether brings up their total cost to about £24,000 per mile, and taking the average cost of the English railways at £35,000 per mile, the relative cost of the two would be nearly as 3 to 2, or the Belgian State lines will have cost about 31 per cent. less than the English lines; but the fares on the Belgian lines are on the average considerably more than 31 per cent. less than those of the English lines. In Belgium the fares are not the same in proportion for all distances, being greater for short than for long journeys; there may be wisdom in this arrangement, for the expense of conveying a passenger a short distance, taking all things into consideration, is much greater in proportion than for a long one; there is more wear and tear and loss of service of the engines and carriages, the cost of station accommodations, attendance, and general expenses are the same for a long as for a short journey, so that a slightly proportionate higher fare is but reasonable for short distances. The Belgian fares as compared with those in England are nearly thus: for ten miles distances about 25 per cent. less; for twenty miles 33 per cent.; for fifty miles 60 per cent.; for 100 miles 70 per cent.; and for 200 miles and upwards about 75 per cent. less than the fares in this country. This difference is so enormous and so disproportionate to the actual cost of the lines that there must be something else to account for it. It can not be the greater number of passengers carried, for although there is a slight excess in Belgium over the number in England in proportion to the mileage, the actual amount is insignificant when compared with the great disparity between the rates; thus in England 20,000 passengers were carried per mile of line open, as against 23,600 in Belgium, a difference only of about 18 per cent. Something may be said on our side for the greater speed which obtains in this country, and credit be taken for additional expense in maintaining it, but with all this, comparing our rates with those in Belgium, there does appear a good margin for a reduction, when our railways pay better. The main expenditure, notwithstanding that our carriages are on the average run 80 per cent. empty, is not incurred in the actual working of the trains, or in keeping the engines, carriages, and permanent way in repair, for the amount expended on all these items barely amounts to more than half of the total working expenses. The cost of conveying a single passenger one mile, taking the average of the classes, and allowing Mr. Haughton's estimate of 2 cwt. per passenger, which is a high one, may be taken approximately at—locomotive renewals, and repairs, .08d.; fuel, .04d.; permanent way, maintenance, and renewals, .06d.; carriages, repairs, and renewals, .02d.; making altogether .2d. per passenger per mile. The average revenue per passenger per train mile being .78d., and allowing the working expenses to amount to nearly 50 per cent. of the receipts, the total expense per passenger per train mile would be (say) 38d., leaving .18d.

per passenger per mile, which is nearly equal to the whole cost of locomotive power, together with carriage repairs and maintenance of permanent way, paid away in general expenses.

It is to this nearly one-half the working expenses, for which their is really no work to show in dragging the trains, that railway reformers should devote their attention; and it is no doubt in this that the greater portion of the saving is effected in the Belgian State railways; and surely what can be done in Belgium can be done here; therefore, taking the common sense view of the question which Mr. Haughton invites us, and comparing our railway matters with those of other countries, we are not quite so sure, as he appears to be, that we are in the matter of railways, prices considered, the best served community in the world. We certainly have some advantages over our neighbors across the channel, but at the same time we are behind them in many things, and we do not see, while retaining all the good we possess, why we should not remedy our short-comings by taking a lesson out of their book. If these general expenses could only be reduced one half, and the trains were so adjusted to the traffic as on the average to run even 50 per cent. filled instead of 80 per cent. empty, as is now the case, we should be able to assimilate our fares more nearly to the Belgian standard; and the very fact of doing so would help the object by increasing the number of passengers, lessening the unpaying weight by filling the present emptiness of the carriages, and by increasing the receipts reducing in proportion the general expenses.

While thus differing in some points from Mr. Haughton's conclusions, we must, nevertheless, give him full credit for having compiled a most valuable paper, containing an immense amount of statistical information, which will be found highly useful to every one interested in railway property and progress; and we are glad to find that this important question is receiving the attention it deserves, for this can not be over-rated, and the more it is ventilated, and that from both sides, the sooner shall we be likely to arrive at a satisfactory solution of the great question of how to confer on the traveling public the boon of cheap fares, and on the Shareholder handsome dividends—*Herapath*.

PITTSBURGH AND CONNELLSVILLE RAILWAY—

Over two thousand men are at work on the heaviest portions of the road at present, and we can, with some confidence, state that by next New Year's Day the line will be finished to Indian Creek, ten miles above Conneltsville, next Spring the falls of the Youghiogheny will be reached, and probably about October of next year, or at furthest in January, 1871, the proud consummation of the iron road between the head waters of the Ohio and Chesapeake Bay will be reached, and the result, it is very well known in our community, is due very largely to the liberal and far-sighted action of the Eastern friends of the enterprise. The city of Baltimore, releasing their first mortgage of \$1,000,000, and taking for it, together with the accrued interest, a second mortgage on the line, enabled the Company to issue new first mortgage bonds, of which \$1,000,000 were taken by the Baltimore and Ohio Railway Company, \$800,000 by citizens of Baltimore, and some \$300,000 or \$400,000 by our citizens here.—*Pittsburgh Chronicle*.

Steel-Capped Rails.

From the American Railway Times.

Mr. Editor:—Can rails with cast steel, Bessemer steel or Martin steel tops be re-rolled? If the iron and steel shall be separated, the rails must be cut longitudinally through the stems, beneath the rail heads, which will weigh about thirty pounds per yard. Can these rail heads, composed of wrought iron and cast metal, be re-rolled or forged out to any practical purpose? Will not the cost of cutting the rails in that way be very heavy, considering that only the flange and stem parts of the rails are available as old iron? I think that these rails, when worn out or defective, will be worth less than half the price of old iron rails of the same weight. Rails with steel tops—that is to say, anything short of a full steel rail head—or objectionable for well known technical reasons, which can not be overthrown by the fact that small sample lots, made with extra care, have given satisfactory results. If, however, steel topped rails are to be used, the tops should be made of puddled steel, which can be re-rolled and re-worked with the iron rail parts without separating them, and which welds better and can be made harder without danger of rupture than the different kinds of steel before mentioned. F.

[The above question and comments are well worth considering before the railway companies are induced to adopt, to any large amount, a rail that may fail at an early day in the track, or be found comparatively worthless for re-working. We understand that the steel-capped rails, some fifteen miles of which are in use on the Hartford and Springfield Railway, made by the Trenton Iron Company, are showing signs of breaking down after a single year's wear. We are very much in favor of giving each new kind of rail a fair trial, but a certain degree of caution should be used before adopting those that, from the very nature of their composition, are of doubtful value.—Ed. A. R. T.]

Exports of Iron Rails from Great Britain.

Messrs. S. W. Hopkins & Co., Iron and Steel Rail Merchants, 69 and 71 Broadway, New York, and 58 Old Broad Street, London, furnish the following official statement of the export of iron rails from Great Britain:

	Five Months ending May 31st.		
	1867. Tons.	1868. Tons.	1869. Tons.
<i>America.</i>			
United States.....	87,299	112,608	141,634
British.....	2,813	5,616	12,992
Cuba.....	937	1,672	319
Brazil.....	773	1,820	548
Chili.....	2,640	404	1,670
Peru.....	168	770	9,306
<i>Europe.</i>			
Russia.....	17,863	12,230	52,714
Sweden.....	350	413	2,890
Prussia.....	4,341	3,611	2,738
Illyria, Croatia, Dalmatia.....		3,810	12,975
France.....	58	44	2,770
Holland.....	6,196	14,664	4,880
Spain & Canaries	4,328	3,777	5,673
<i>Asia.</i>			
British India.....	45,151	42,813	30,132
Australia.....	6,827	4,688	9,901
<i>Africa.</i>			
Egypt.....	8,541	10,512	3,711
Other countries....	11,027	14,322	25,892
Total.....	199,312	233,779	320,745

South Carolina—Its Commercial and Financial Condition and Prospects.

[From the Charleston Daily News.]

The money value of the South Carolina cotton crop of 1868-69, at an average of twenty-five cents a pound, is about \$18,000,000. This cotton, with good management, can be produced at ten and twelve cents. Adding to the cotton crop our large crop of rice, the proceeds of our phosphate beds, and of our fruit and vegetable trade, it may be safely estimated that the net profit on the marketable productions of 1868-69 is between \$8,000,000 and \$10,000,000. This is exclusive of bread-stuffs and meat raised for home consumption. The profit on the crops of rice and cotton for one year is, therefore, sufficient to pay off the whole debt of the State. The sea coast has met with disaster after disaster, but for three years the middle and upper counties have been steadily making money. Old debts have been cleared off, and no new ones of any consequence have been contracted. When loans of money were wanted they could not be had. This compelled the general adoption of the cash system of doing business, which is now the rule throughout the State. All our merchants agree in saying that the goods sold to the country dealers are promptly paid for; and we know that in the North and West our credit is as good as it was in the palmiest days before the war.

But after paying off old debts there was still a large surplus of money in the hands of the planters and farmers. This was applied to putting the plantations in working order, to the purchase of implements and stock, and to the repairs of houses and buildings. The money still remaining could find no investment. There were no negroes to be bought, and of land there was already more than enough. The greater part of the surplus was invested in gold, and in every village in the State, tens of thousands of dollars are carefully hidden from daylight and usefulness. Upon this point we have made careful inquiries, and we are convinced that there is more hard money in South Carolina to-day than there was at any one time before the war. We want to see this money in active circulation, and it will gradually flow into the channels of trade. But confidence is a plant of slow growth, and the dangers and the vicissitudes of the past are not easily forgotten.

Passing from the country districts, which are practically out of debt and have more ready money than they ever had before, we turn to the cities of Columbia and Charleston. In these cities the spring trade of 1869 was better than that of 1868 or 1867, while there is every reason to expect an unusually good fall trade. Columbia is gradually rebuilding. Senator Sprague promises to erect mills on the Columbia Canal, and the value of real estate is advancing steadily, if slowly. Charleston is rapidly recovering her old business. Georgia and Alabama are again supplied by the Charleston jobbers and merchants, and, thanks to the improvements in our railroad system, freight is sent without transshipment from Charleston to St. Louis, Vicksburg and the cities of the gulf. We have a fleet of swift steamships plying between this city and the Northern ports. A line of steamships between Charleston and Liverpool direct was established last year, and is an accomplished fact. In October the first steamship of the season will be loading at our wharfs for Liverpool, taking aboard not only the South Carolina staple, but the cotton of Georgia and Alabama and far Mississippi. What other

Southern city, except Baltimore, has established direct trade with Europe? In our sister cities there was a great deal of talking and writing, Charleston said nothing, but has established the Charleston & Liverpool Steamship Line.

And in regard to railroads our people are not idle. A number of new railroad projects are already before the public. Some of them may injure Charleston, but all of them will be of benefit to the State at large. The big father of railroads—the Blue Ridge—is under contract, and is expected to pour into our lap the vast trade of the West, while through Charleston will flow the immigrants and the foreign goods which the West requires.

WONDERFUL ENDURANCE OF BESSEMER STEEL FOR THE WEARING SURFACE OF RAILS FOR HEAVY RAILWAY TRAFFIC.—Mr. Booth of this place, who has given the subject much investigation, and is the patentee of the safety rail, says at the North street crossing on the New York Central Railroad, in this city, there are four rails which receive probably more wear than any other four rails on this road, and he set a man at counting the cars and engines passing one of these rails in 24 hours. The rails, which are reduced now 1-16th of an inch only, have been down 10 months, and pass daily 486 engines and 3,262 cars. Taking into account the greater weight of the engines with tenders, he estimated one engine and tender equal to four cars in wear, which estimate added to the 3,262 cars, equals 5,206 cars, or 20,824 wheels per diem, or 6,247,200 wheels for ten months. The greater portion of these cars are loaded and much friction at this point is produced by the locking of the wheels and reversing and slipping of the drivers; at least the action is more severe than on the main track line with rapid movement, but with this ratio of wear, admitting it about equal, it will take twenty-six years for twenty daily trains, with twenty cars to a train, to reduce the steel from the first convex surface one eighth of an inch. At the first one-sixteenth of an inch of wear the crowning feature of the rail has become flattened, therefore a wider surface is left, which will in all probability add four years to the foregoing twenty-six, making thirty years of wear in reducing an eighth of an inch of Bessemer steel from a new rail, or 15,621,400 wheels. The 400 cars per diem is quite a liberal estimate for our largest traffic roads, except coal roads. More fall short than exceed this estimate. The wear upon these four rails appears uniform from end to end, and they could not well be otherwise, as the motion is slow and the friction about evenly distributed.—*Rochester Express.*

IMPROVEMENT IN ROLLING IRON.—A new description of roller, to be employed in the manufacture of iron plates, bars, tubes, &c., has just been invented by a roll turner, named Robert Robertson, who is at present employed in the Coatbridge Iron Works, the property of Messrs. Martin & Son. The invention, if it succeeds as well as it at present promises to do, bids fair to completely revolutionize the system of rolling, as the new machine possesses so many advantages over the one at present employed. The invention consists of having the rolls tubular, instead of solid as at present, with a stream of water introduced inside of the rolls. The advantages are said to be that the new rolls are from 7 to 8 cwt. per ton lighter than those in use at present, while the water inside the rolls prevents the heated iron from due expansion, while under-

going the process of rolling, and saves a great amount of drag upon the engine. The saving in this respect will be better understood when it is stated that in the item of brass bearing alone the amount of mean steam saved by the new invention is at least 15 per cent. No steam arises from the rolls while working, so that the workmen can pursue their avocations with greater ease and facility. No scales stick to the rolls, consequently the finished bar or plate presents a finer surface. The new roller will also last much longer than the solid rolls, while the chances of sudden breakage are reduced to a minimum.—*North of England Coal and Iron Trades Review.*

SHIFTING THE ADJUSTABLE-GAUGE CARS.—Freight cars loaded with wheat are run over the whole distance between Chicago and Boston, their gauge being shifted to conform to that of the rails on the different roads. This shifting is effected at Point St. Charles, and is done in this wise:—A pit about four feet deep has been excavated between the rails, in which a workman, with hammer and wrench, takes his position. The track at the western end of the building is of the broad gauge, but gradually diminishes to the narrow gauge at the eastern entrance. Each wheel on the right side of the car, instead of being immovably fixed on the axle, may be moved in upon said axle, by the unscrewing of a nut and loosening of a bolt. It is but the work of a moment for the mechanic in the pit beneath the car to unscrew the nuts, and then the train, being slowly backed by the engine, the right hand wheels of each car are gradually crowded in by converging rails till they are brought to the narrow gauge. A few turns of the wrench, and the wheel is firmly fastened and the car ready to move on to Boston. In changing from the narrow to the broad gauge a third rail expands the wheel outward to the desired width.

A NEW ALARM BELL FOR LOCOMOTIVES.—A new locomotive alarm bell has just been invented in Detroit, and was tested on the Detroit and Milwaukee Railroad one day this week. The invention consists of an ordinary bell, weighing about 100 pounds, placed on the platform of the locomotive, immediately over the cow catcher. A rod attached to the eccentric shaft causes a clapper to strike the bell each turn of the driving wheel. The bell is suspended loosely, and revolves from the force of the stroke it receives, so that all parts of the surface are equally exposed to wear. The advantages of this arrangement are a continuous sound, slow or rapid in proportion to the speed of the engine, each 15 feet producing a stroke of the bell. In case of an accident, the railroad company can always prove that their bell was ringing according to law. Owing to the position in which this bell is placed, the sound can be distinctly heard about three miles in day-time, and by night four miles or more, the ground and the continuous rail, both excellent conductors of sound, assisting in carrying the vibrations. The Detroit and Milwaukee Railroad have 24 of these alarms already in use, and intend to provide all their passenger engines with them. Mr. Ben. Briscoe, the inventor, went to Detroit in 1837, and in 1842 took charge of the Detroit and Pontiac, then a strap railroad, with pony engine and one little car, and performed the duties of master mechanic, engineer, fireman, and sometimes of conductor. In those days signal bells were unnecessary, because the train did not run fast enough to hurt cattle.—*N. Y. Tribune.*

Railroad Items.

—The North-western Railway, of which Hon. Alexander Mitchell, of this city, has just been elected President, with 1,200 miles of road, and with several hundred miles more leased and under its control, had the most insignificant beginning of any railroad in this country. In the year 1853, Col. Hans Crocker, of this city, was asked by J. B. Macy for the loan of \$500. "What do you want it for?" asked the Colonel. "I want to go up to Oshkosh and build a railroad from that place to Fond du Lac to carry lumber." The novelty of the idea of building a railroad with \$500 took Col. Crocker by surprise, and without another word he handed over the money. Mr. Macy went away, and with his \$500 commenced work. It must have required some shrewd management and sharp figuring to do the work, but in a few months a sort of railroad was built, and was doing all that it could in the lumber trade. From this insignificant beginning the great North-western corporation had its existence.

—At the meeting of stockholders of the Pequet and Walkill Railroad, held at Andover, Sussex County, the following named gentlemen were elected Directors for the ensuing year, viz.: Charles Scranton, John Rutherford, Selden T. Scranton, John W. Wyckoff, Simon A. Cummins, James B. Titman, Grinnell Burt, Wm. H. Scranton, and Wm. M. Hiff. Chas. Scranton was chosen President, and J. W. Wyckoff, Secretary and Treasurer. This road is to form a part of the great inland central line of railroads leading from Nova Scotia to Texas, and with the completion of this link and a few miles between Hagerstown, Md., and Harper's Ferry, with what is now in course of construction in the eastern part of Maine and on the Boston, Hartford and Erie line, will give an unbroken line of rail the whole distance, with but one ferry (on the Hudson River) on its entire length, and between the Hudson River and East Tennessee will pass through the great Kittatinny Valley.

—The Erie Railroad has found a way of getting round a provision in their grant from the State of New York, which required it to run the road in that State to Port Jervis instead of taking a direct line through New Jersey. A new company have laid out and are now working upon a direct road from Paterson to Jersey City. The Erie Company lease it for a period of ninety-nine years, and then, when it is completed, they will use the old track for freight, and the new for passenger travel alone. By this means Erie shortens its distance twenty-four miles.

—The neck of land on the city front, between Buffalo river and Lake Erie, having been selected by various railway and mining companies as the most available depot from which to supply the West with Pennsylvania and other coals, a great rivalry has sprung up for the right to build a railway along the beach to connect with the different railways terminating at this point. Several railways connected with the coal trade are now building extensive improvements on this neck of land to accommodate the coal trade.

—The Central Pacific Railroad Company has succeeded in breaking up the gang of incendiaries, banded for the purpose of destroying its fuel, water-tanks, and stations, in the East Mountains. Among the parties arrested, where those who set fire to the snow-sheds near Summit a few weeks since.

—The Erie Railway Company contemplate the erection of a road from New York to Newark. It is proposed to build from the west end of the tunnel to the depot of the Newark and Paterson Railroad, in Newark. The estimated cost is \$400,000. Surveyors have been sent out to ascertain the feasibility of building a line near Fort Lee, so as to avoid the Bergen Tunnel and the drawbridges. The survey of the new route, from the Erie Tunnel to the Cattle Yards at Hoboken, has been completed.

—At a recent meeting of the stockholders of the Spartanburg and Union Railroad of S. C., the following officers were elected: President, Thos. B. Jeter, Directors, Messrs. S. Bobo, J. W. Miller, G. W. H. Legg, J. E. Bomar, J. L. Young, T. N. Dawkins, J. F. Gist, Wm. Munro, R. J. Gage, J. F. V. Legg, J. H. Evans and A. Cameron. The President's report represents the affairs of the Company in good condition—the fiscal statement showing a decided improvement upon that of 1868.

—Arrangements are being made for the transfer of passenger and freight cars from the Mobile and Ohio to the Iron Mountain Railroad, by ferrying at Columbus, Kentucky. A meeting of the stockholders of the latter road has been called at Helena, Arkansas, for the purpose of devising means of continuing the road to that point. It is rumored that the contract for building the road has already been taken by an English firm.

—The vote in Indianapolis, city and county, on the 14th inst. on the question of a donation of three hundred and fifty thousand dollars to the Indianapolis, Delphi & Chicago and Indianapolis & Illinois Central Railroads, resulted in a large majority against the appropriation in the county. The city gave a small majority in favor of it.

—The Raritan & Delaware Bay Road was sold on the 15th inst. to the bond holders for \$50,000, and the rolling stock and steamer Jesse Sheritt for \$74,000. The road is to be put in order and improved.

OMAHA, September 14.—Track laying has been commenced at Cheyenne on the Denver Pacific Railroad. The work is expected to progress two miles per day.

—The depot of the St. Paul and Sioux Railroad, at Ottawa, Minnesota, was struck by lightning on Sunday, and burned, together with its contents.

—In the Mississippi river trade there are 910 steamers, with a capacity of 292,175 tons, and valued at \$24,556,000.

CURIOUS LETTER.—At a meeting of the Polytechnic Association of the American Institute a few days ago, the chairman exhibited a letter which was certainly a curiosity. The letter and envelope were made of sheet iron, and yet weighed less than the regular rate, one-half ounce. The envelope measures four and seven-eighths by two and three-fourths inches, and the letter is eight by five inches. Careful measurement with a micrometer gave one five-hundredth of an inch as the thickness of the sheet. Letters have been written on sheet iron before, and an iron book of three hundred pages, which measured less than one inch in thickness, was shown at the World's Fair. The book was printed with elastic type, made specially for the purpose.

Railroad Patents

For the Week Ending Sep. 15th, 1869.

[From American Artisan.]

- 94,469—*Hand car for Railroads*—Henry L. Brown, Adrian, Mich.
- 94,494—*Car-ventilator*—Robert Hitchcock, Springfield, Mass.
- 94,516—*Railway rail Splice*—Benjamin Robinson, Boston, Mass. Ante-dated August 21, 1869
- 94,525—*Railway-car Brake*—John W. Swales, San Francisco, Cal.
- 94,528—*Railway rail Chair*—A. B. Thompson, Owego, N. Y.
- 94,530—*Railway car Brake*—Inglish Walker, assignor to himself and William R. Barnard, Lynn, Mass.
- 94,544—*Machine for making Railroad spikes*—John W. Bartlett and David P. Bosworth, Harmar, Ohio.
- 94,547—*Railway car Coupling*—R. W. Baylor, Norfolk, Va.
- 94,579—*Railway car Coupling*—Thomas B. Dora, Mattoon, Ill.
- 94,587—*Safety attachment for Street railway Cars*—John Fogarty, Brooklyn, N. Y.
- 94,601—*Railway Spike*—C. L. Heywood, Boston, Mass.
- 94,607—*Railway rail Joint*—William Johnston, Havelock, Pa.

—The *San Francisco Mining and Scientific Press* describes a new apparatus for kyanizing wood, lately invented by Mr. D. W. Hunt, of San Francisco. "It consists in a cheap device for forcing the solution into the pores of the wood. Instead of placing a stick of timber in a boiler or expensive cylinder, as has hitherto been necessary, the inventor simply places a plate upon one end of a stick of timber, so constructed, by having its edges turned up, as to make a water tight joint by being pressed against the end of the timber, and at the same time leave a small chamber between the face of the plate and the end of the stick. Into this chamber is forced, by hydraulic pressure, the preserving fluid, be it oil, lipid, sulphates, creosote, or any other kinds of liquid. The pressure forces the liquid into and along the pores of the wood, driving the sap before it, as far as may be desired—through the entire stick and out at the top, or only for a short distance, as for the bottom of fence posts or the ends of timber designed to be placed in brick walls, where, without some such preserving process, they soon decay, by means of the moisture abstracted from the bricks. It is claimed that a large number of these machines may be constructed at small cost, and by means of a small force-pump may be operated in the field or shop, or wherever else it may be convenient to effect the preservative process. The plate is held in place by connecting-rods passing through a similar plate fixed upon the opposite end of the timber."

RAILWAY-CHAIR AND SLEEPER.—J. Gregory, Lisbon, Portugal.—Aug. 17.—Patented in England Oct. 28, 1868.—This invention embraces a new method of fastening rails to chairs or sleepers by driving wood wedges of any suitable form beneath the rails in such manner that they form an elastic support for

the rail, and bind and hold together the rails, sleepers, and other parts forming the permanent way. The invention also includes the construction of a railway-sleeper and chair combined. Also, the combination with the thus constructed sleepers and chairs of double hooked dogs, which serve an efficient purpose in carrying out in practice the essential features of the improvement.

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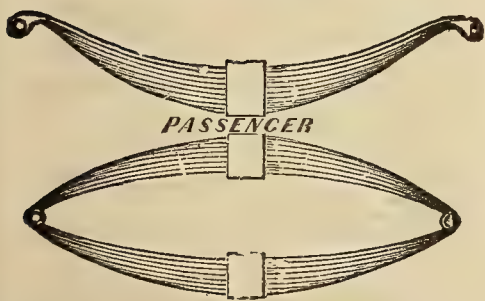
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9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.25 A. M.; Galion, 4.05 A. M.; Mansfield, 4.50 A. M.; Akron, 7.32 A. M.; Ravenna, 8.16 A. M.; Leavittsburg, 9.00 A. M. (Bk't); Meadville, 11.30 A. M.; Hornellsville, 6.14 P. M. (Supper); New York, 6.30 A. M. Connects at Mansfield with Pittsburg, Ft. Wayne & Chicago Railway for Pittsburg, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities. New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through **860 Miles without Change.**

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Toledo & Detroit.	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.	7 00 A. M.	5 25 P. M.
Richmond & Chicago.	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.	3 40 P. M.	10 30 A. M.
Indianapolis & Cambridge City.	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.	6 45 A. M.	
Richmond & Chicago.	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.	7 00 P. M.	7 55 A. M.

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TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Even. Exp.	Seymour Acc.
Leave CINCINNATI.	7 00 a.m.	10 10 p.m.	4 00 p.m.
Arrive CLEVELAND.	12 00 m.	2 00 a.m.	6 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive CINCINNATI.	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive CINCINNATI.	9 25 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Arrive SANDOVAL.	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS.	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. & O.	6 10 a.m.	11 30 p.m.	12 00 m.

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ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail.	6 30 am	12 20 am
St. Louis and Springfield Express.	3 35 pm	8 20 am
St. Louis and Springfield Express.	1 35 pm	3 30 pm
Lawrenceburg Accommodation.	10 00 am	2 35 pm
Lawrenceburg Accommodation.	4 45 pm	8 05 am

*The 10:35 am. train will leave Sundays, but not on Saturdays.

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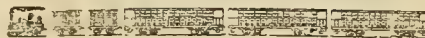
Chicago Mail.	7 00 am	10 00 am
Chicago Express.	6 30 pm	9 40 pm
Harrison Accommodation.	6 10 pm	6 40 pm

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

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Leave Baltimore for North and West 7:35 A. M.; 1:26 A. M. (Express); 1:10 P. M. (Express); 6:35 P. M.; 8:2 P. M. Express

SUNDAY TRAINS—Leave Philadelphia for Baltimore at Washington at 4:15 A. M. and 11:00 P. M. Leave Baltimore for Philadelphia at 8:25 P. M.
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Morning Mail.	7:00 A. M.	2:30 P. M.
Evening Express.	5:45 P. M.	9:10 P. M.
Walton Accommodation.	4:00 P. M.	9:30 A. M.

The 7:00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on the Walton Accommodation, offer great inducements to the citizens of Cincinnati and Covington who wish to purchase country residences or small farms for gardening. This train leaves late in the afternoon, and arrives early next morning, giving all day to attend to business. For further information as to routes, low fare, &c., please apply at No. 1 Burnet House, or Depot, Covington, Ky.

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CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Liberty st., connects at Hampton Junction with the Delaware, Lackawanna, and Western Railroad, and at East on with the Lehigh Valley Railroad and its connections, forming a direct line to Pittsburg and the West, without change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago, Cincinnati, St. Louis, etc., with but one change of cars. Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk, Williamsport, Wilkesbarre, Mahanoy City, Tuckahoe, &c.
7:15 a. m.—For Somerville.
8:30 a. m.—For Flemington, Junction, Stroudsburg, Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.
12 m.—For Flemington, Easton, Allentown, Mauch Chunk, Wilkesbarre, Reading, Columbia, Lancaster, Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.
3:30 p. m.—For Easton, Allentown, Mauch Chunk and Belvidere.
4:30 p. m.—For Somerville.
5:25 p. m.—For Somerville and Flemington.
6 p. m.—For Easton and intermediate stations.
7 p. m.—For Somerville.
7:20 p. m.—EMIGRANT—Stopping only at the principal stations.
9:00 p. m.—For Plainfield.
11:50 p. m.—For Plainfield, on Wednesdays and Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,) for Easton, Allentown, Harrisburg, and the West without change of cars to Cincinnati or Chicago, and but one change to St. Louis. Connects at Harrisburg for Erie and the Old Regions. Connects at Junction for Stroudsburg, Water Gap, Scranton, &c. Connects at Phillipsburg for Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Saturdays,) for Easton, Bethlehem, Allentown, Reading, Harrisburg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars to Pittsburg and Chicago. Connects at Junction with Delaware, Lackawanna and Western Railroad for all stations to Scranton. This train will be run to Easton on Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton, Allentown, Reading, Harrisburg, Pittsburg, and the West—connects at Harrisburg with train for Williamsport, Erie, &c.

Sleeping cars through from Jersey City to Pittsburg every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15, 8:15, 8:30, 9, 9:20, 10:30, 11:10 a. m.—12 m., 1:10, 2:10, 3:30, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25, 7:10, 7:2, 7:40, 8:10, 9:00, 9:40, 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the Central Railroad of New Jersey, foot of Liberty st. N. Y.; at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at No. 10 Greenwich st., and at the principal hotels.

R. E. RICKER, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

CINCINNATI, - THURSDAY, SEPTEMBER 23, 1869.

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The Pennsylvania Road.

Of all the railroads in the United States—now amounting, probably, to 45,000 miles, and some of them (like the Erie) controlling 3,000 miles in extent—the Pennsylvania road is the most successful in all points. Successful because it is not only profitable, but is most complete in all appointments, equipments, construction and permanence.

Four or five years since, in looking over the annual report of the Pennsylvania road, we found the gross receipts to be about \$15,000,000, and the nett receipts about \$5,000,000. Two millions is ten per cent. on \$50,000,000, and that was a great deal more than its capital. The result was, that the company always had a surplus with which to buy, lease or improve other roads, and make branches. The result of this was the Pennsylvania company bought the canals of the State, and made various branch roads, until the Pennsylvania road now, in fact, consists of a vast network of railroads and canals, from Philadelphia to Chicago, while it has connecting lines to Cincinnati and St. Louis.

It is a curious fact that the main line of the Pennsylvania road goes over the same route with the old stage road from Philadelphia to Pittsburg; and we may add, that such is the fact with all the main lines between the East and West, so that, in fact, nature always points out the true lines of commercial transit.

In the *Chicago Review* we find a very full, elaborate and interesting history and statement of this road. It is a very valuable chapter in the history of our railroad system, and a similar one should be written for all our great roads. They would make useful contributions to the history of practical science. Much of what is in the *Review* we knew, and

we avail ourselves of that article to state some of the important and interesting points.

1. It is quite remarkable, in the history of public improvements, that one man—J. EDGAR THOMSON—has presided over its destiny from the beginning to the present time. This shows not only great success, but sound judgment and steadfastness on the part of his employers. It is one of the great mistakes in the public business of this country, to be continually changing men, and trying experiments, and thus wasting time and money.

Mr. THOMSON has remained at the head of the Pennsylvania road from 1847 to the present time, and it is needless to say that not only the company, but all intelligent men acquainted with railroads, testify to the wisdom with which he has conducted its affairs. The first and great Superintendent of this road was Mr. HAVER, and no road has been better managed than this.

2. Some idea of the enormous business and rapid progress of this road may be obtained from the following paragraph. It illustrates a very important fact: that the business of roads, on great lines, increases much faster than the most sanguine estimates of it.

In 1854 the accomplished author of a semi-official Guide Book to the Road anticipated the time when the annual movement of freight would swell to 1,000 000 tons, and the annual gross earnings to \$5,000,000. In the preceding year the total of tons moved was 159,632, and the receipts from all sources \$2,774,889.37. Contrast with these the business of 1868—total tons moved, 4,427,884; number of passengers carried, 3,747,178; total earnings, \$17,233,497.31;—the net earnings, \$5,372,513.43; exceeding the "glittering generality" of Five Millions which inspire the grave eloquence of the good Quaker tourist and guide.

Thus we see it is but fifteen years since the freight was estimated at 1,000,000 tons, and the gross receipts at \$5,000,000; yet we see that in fifteen years this estimate has been more than trebled! We hesitate not to say, that with our present enormous crops, the receipts of the Pennsylvania road will be twenty millions of dollars a year.

In fact, nature made the route from Philadelphia to Pittsburg through the valleys of the Susquehanna and the Juniata, the best and greatest route from the Atlantic to the Valley of the Mississippi. Take this fact in connection with the numerous branches and connecting lines to Cincinnati, St. Louis and Chicago, and the business of this road will be accumulative and accumulating.

One of the great connections of the Pennsylvania road will be that through Cincinnati—on the bridge over the Ohio to Louisville and Memphis. This will be almost a direct line.

3. The total of men employed in operating the road Jan. 1st, was 10,037—2,436 in the Transportation Department engaged in 55 occupations; 4,075 in the Motive and Machine Department, engaged in 61 occupations; 3,526 in the Maintenance of Way Department. The June pay rolls in the depart-

ment of M. P. & M. show the following aggregate of men and wages per day: Altoona, 1,470 men, receiving \$2,774.19; W. Philadelphia, 666, receiving \$1,344.89; Columbia, 44, receiving \$83.99; Harrisburg, 313, receiving \$589.50; Middin, 73, receiving \$145.15; Tyrore, 41, receiving, \$87.89; Conemaugh, 56, receiving \$98.46; Blainville, 40, receiving \$76.40; Pittsburg, 441, receiving \$919.79.

It thus appears, that the average pay of the men is about \$2 per day; but this includes a good many skilled men.

The total number of locomotives on the main line and branches, Jan. 1, 1868, was 434, of which 342 (22 requiring repairs) were in service. The general average mileage was: Passenger trains, 23,582; freight 20,306. The greatest mileage was—passenger (engine 419) 44,708; freight (engine 138) 42,052. The total rolling stock, Jan. 1st, was: Passenger equipment, 325 — 23 in shops; freight, 6,457—in shops, 437; adding to which 677 in Maintenance of Way service, and 3,053 cars of other companies run regularly, the aggregate of cars on the main line and its branches was 10,512. The daily average of cars and trains at main points of each division for the month of June, 1869, was:

	Cars.	Trains
Columbia, Philad'a Div...	East...603	29
	West...610	14
Mifflin, Middle Div.....	East...849	24
	West...855	24
Altoona, Pittsburg Div...	East...626	20
	West...652	17

The term "train" in the time schedules should be explained as embracing generally more than one, frequently several trains, running near together under a system which precludes complication.

Ten thousand cars, and ten thousand men at work gives us some idea of the enormous business of a great main line railroad.

One of the most interesting things connected with the Pennsylvania road is its trial and adoption of some great improvements in rail-roading. One of the most important things in a railroad is the iron. It is the iron which is continually wearing and breaking, and thus troubling the managers of railroads. The Pennsylvania road has made many experiments in this, and arrived at what may be regarded as successful results. This is best understood by the following statement of the *Review*:

RAILS.—In 1863 President Thomson (17th Rep) called attention at length to the rapid destruction of iron under high speeds and heavy locomotives. For, whereas the weight and speed have been steadily increased, at the same time the quality of iron rails manufactured has constantly deteriorated. The natural remedy would lie in securing the same quality of iron originally used—which was the best refined, from selected ores; but the use of a steel, or steel headed rail had come to engage that attention in Europe which seemed to preclude a return to the best iron, short of a thorough experiment with steel. Accordingly a trial lot, of 150 tons of cast steel rail, and a small lot, with steel wearing surface passed through the rolls, were laid down at points where the wear of the iron rail did not exceed six months or a year. The following year the report in regard to the steel rails

was that "they show no evidence of wear," while "the experiment with the steel wearing surface rail had not proved successful." On account of the great cost of steel, however, it was sought to increase the utility of iron rails by giving them increased depth— $4\frac{1}{2}$ inches—securing 30 per cent. increase of vertical strength; and by the erection of a refining furnace at a principal mill of supply. In 1866—the steel rails laid in 1864 and 1865, showing no appreciable wear, 270 tons of Bessemer rails combining toughness with hardness, were laid. These met every expectation, establishing the fact that while their cost was about twice that of the best iron rails their durability was fully eight times greater; and so, in his report for 1866 (20th A.R.) Mr. Thomson stated it to be the intention to replace the annual wear and tear with steel rails—their general introduction being "wholly a commercial question." When the cost of their production is reduced to the minimum, the general public will be materially benefited by the reduced cost of transportation possible to the Company from their use. A steel rail (Dodd's process) was also experimented with, it being claimed that the additional cost of 25 per cent. over iron, resulted in extending its life three fold.

At the end of 1868 a total of 11,494 tons of steel rails had been purchased, to which should be added 111 tons of Prussian steel-headed rails—enough in all to lay 120 miles of track; and contracts are made for 7,500 tons more to add this year. Of these latter, 2,500 tons are of English, and the balance of American manufacture. Of the former, 500 tons are of the noted Ebbevale (Welsh) manufacture, of which brand was the first iron rail brought to this country, that used on the Columbia (now Philad. Div. P. R.) road from 1827 to 1832.

The general result of the experience of the Pennsylvania railroad is that steel rails are both best and most profitable. The steel rail Mr. THOMSON finds costs double, but its wear is eight fold. If then 1,000 tons of iron rails were laid down at \$60 per ton, which lasted five years: then in forty years the common iron rails (1,000 tons) would cost \$480,000; but the steel rails would cost only \$120,000—the original cost. Calculating for time and permanence, the best (and therefore the most costly material) is in fact the most economical.

The policy of the company in employing its operatives is worthy of all praise. It is the best way of producing co-operation, in productive industry.

This brief account of the policy of the Company in respect to Improvements would be incomplete without a reference to measures in the direction of co-operation with employees which have from time to time been inaugurated. From first to last, many of these have been enabled, by the aid of the Company to secure themselves homes; and it has been the practice to furnish appropriate dwelling houses to Resident Engineers, Division Foremen, Dispatchers, Supervisors and other local officers; while, in many ways, the Company have indirectly done much to inspire and cultivate local attachments among their employees. In the department of Motive Power and Machinery, specific policies of co-operation have been introduced. In April, 1868, the Supt. of M. P. and Mach., A. J. Cassat,

submitted to Gen. Supt. Williams a plan for encouraging engineers and firemen to exercise greater economy in the use of fuel and stores. The plan of offering individual premiums to engineers and firemen had been tried without success, the varying sizes and construction of engines, and the difference in the character of the service rendered it difficult to fix a fair allowance in particular cases; while it was found that often the engineer, seeing that he could not win the premium, either became wasteful or transferred his superfluous stores to some other, receiving a share of his premium. It was now proposed to offer the premium to these employees collectively; and the plan having met with the Gen. Superintendent's approval, circulars were issued in April to all engineers and firemen, announcing that at the end of the year the money value of all fuel and stores per mile run, saved over the preceding year's average, would be equally divided between the Company and them—65 per cent. to the engineers, 30 per cent. to the firemen, and 5 per cent. to others engaged in the handling of stores. The plan worked so favorably that it has been continued, with certain modifications, the present year with the promise of still more satisfactory results.

Memphis, El Paso & Pacific and San Diego & Gila Railroads.

Like the first Pacific Railroad the Southern route has commenced at both ends. A telegram from San Francisco gives information of the departure of Ex-Secretary Seward and Generals Sedgwick and Rosecrans for San Diego, to witness the turning of the first earth on the San Diego & Gila Railroad. At the eastern end, General Fremont and his Company, are pushing the Memphis, El Paso & Pacific road, with what earnestness can be judged by the communication published two weeks since in the RECORD.

Appearances indicate the completion of the entire line in two years. And there is every reason to believe that neither energy or means are lacking to this end. Fremont and Rosecrans perfectly understand the task they have undertaken, and they make this, for the time their sole employment. The present is a favorable moment. All railroad enterprises are discussed with reference to their future connections with the Southern system, and the South itself is deeply interested in this route to the Pacific by the 35th parallel. As a means of opening up the fertile regions of Texas—of developing the inexhaustible mines of Arizona—of protecting the frontier—it is of incalculable importance to the United States and of special value to the South.

The remarkable ease with which it can be constructed and operated should be noticed. There are no heavy grades, no alkali plains, no sage bush wastes, no snow blockades, to encounter. The work need not be impeded for a day at any season. Wood and water abound, and the route has been so carefully and repeatedly gone over, that the work will proceed at a sure and uniform pace to its completion.

The Master Mechanics Convention.

The Annual Convention of Master Mechanics assembled in Pittsburgh on the 15th inst. The following officers were elected:

President, H. M. Britton of Indianapolis; Vice President, N. E. Chapman of Cleveland; Treasurer, S. J. Hays, of the Illinois Central Railroad; Secretary, S. P. Dodge of Chicago.

The business of the Association is to confer on improvements in locomotive machinery, and how important this subject is may be inferred from the fact that very few, if any roads in the country have any definite standard for locomotives. The *Railway Times* comments on this state of things very sensibly, and gives, as an instance of the prevailing state of affairs, the experience of the Pennsylvania Railroad. Ten years ago the managers of that road resolved to reduce their rolling stock to some system, and they succeeded in reducing the variety of engines to *forty*, in an equipment of 465. The results of such a heterogeneous mixture are exemplified in a snow blockade when several engines are disabled and rendered valueless for weeks because no patterns are at hand by which they can be promptly repaired.

If the equipment can be reduced to three classes, freight, passenger and switching, and the principal parts of these interchangeable, it would simplify the service, very materially add to its efficacy and reduce the cost of repairs. To promote such a desirable end can best be done by the Master Mechanics in convention assembled. They have a practical knowledge of the every day difficulties attending an ill-advised selection of engines. While many of the roads have their own building shops, they are not always able to supply the wants of the road in addition to the never ending demands for repairs, and thus the evil is interminable. To these men, therefore, Railway Managers must look for suggestions towards a uniform standard, not only of engines, but, of rolling stock, generally. And we feel confident that the association is fully alive to the importance of their action in this matter.

Articles of Association of the Cincinnati and St. Louis Straight Line Railroad Company, have been filed at Indianapolis. The Company propose to construct a road from Worthington on the Vincennes road through Bloomington and Columbus to the Indianapolis and Cincinnati Railroad, between Greensburg and Lawrenceburg. The road absorbs the Indiana and Illinois Central Railroad Company.

ALABAMA AND CHATTANOOGA RAILROAD.—A grand barbacue will be given on September 25th, by the citizens of Wills Valley, Lookout Valley and Chattanooga to the Alabama and Chattanooga Railroad Company. We are indebted to Superintendent Stanton for an invitation to be present.

The Avondale Disaster.

This lamentable instance of the criminal folly of single shaft mines has been freely commented on by the press. But will the warning be heeded? Human life has become the cheapest article in the market. It is not to be believed that those in charge of the mines are not aware of the hourly danger to which they are exposed; and yet they will coolly weigh dollars against lives, and when the dread moment of destruction comes, they trust to the proverbial stupidity of a coroner's jury to shield them from merited punishment, and to the liberality of the public to atone pecuniarily for the slaughter of husbands and sons. Can no law be framed whereby the property of such reckless corporations can be amerced to support the victims of their criminality?

Railways at St. Paul.

OSSIAN E. DODGE, Secretary of the St. Paul Board of Trade makes the following statement of Railways in operation and projected, and claims St. Paul as the center of the North-western system of Railways.

We have now in St. Paul the following five Railroads in operation :

	Miles.
1st. St. Paul & Milwaukee R. R., completed entire.....	408
2d. St. Paul & Sioux City R. R., completed to Mankato.....	86
On Jan. 1st, 1870, it will be completed to Lake Crystal.....	100
On Jan. 1st, 1872, it will be completed to Sioux City.....	270
3d. St. Paul & Superior R. R., completed to Chengwatonna.....	60
On Jan. 1st, 1870, it will be completed to Kettle River.....	100
On July 1st, 1870, it will be completed entire to Lake Superior.....	150
4th. St. Paul & Pacific R. R. (North Branch) completed to Sauk Rapids..	80
5th. St. Paul & Pacific R. R. (Main Line) completed to Swede Grove.....	84
On July 1st, 1870, it will be completed to Breckinridge, on the Red River of the North.....	220

In addition to the above, which are now in active operation, there are the following five Railroads soon to be built :

	Miles.
1st. St. Paul & Chicago R. R., to be completed by Jan. 1, 1870, to Hastings...	25
On Jan. 1, 1872, it will be completed entire, via connection at La Crosse...	400
2d. St. Paul & Stillwater R. R., to be completed Jan. 1, 1871.....	18
3d. St. Paul & St. Louis R. R., to be completed, two routes, one via Austin, one via Mankato, by July 1, 1872.....	.....
4th. St. Paul & Tomah R. R., will be completed North-west from Tomah, Jan. 1, 1870.....	75
On Jan. 1, 1871, will completed entire	150
5th. Northern Pacific R. R., This National enterprise is now in good progress, and the road will no doubt be completed at an early day from St. Paul to Puget's Sound, on the Pacific	2,500

Erie Railway.

It was formally announced to the Stock Exchange on the 14 inst., that the shares of the Erie Railway Company would thereafter be regularly called at the Board, the Company having fully complied with the rules of the Exchange. The following letter from the President of the Company was read at the Board:

OFFICE ERIE RAILWAY COMPANY, }
NEW YORK, Sept. 11, 1869. }

R. G. Rolston, Esq., President Farmers' Loan and Trust Company:

DEAR SIR: The following is a statement of stock, debt, and leasehold estates, in answer to your inquiries of this date. The amount of common stock is \$70,000,000, and the amount of common scrip, none. The amount of preferred stock, including scrip \$8,536,910. The amount of mortgage debt (7 per cent.) authorized and issued is as follows:

First mortgage, \$3,000,000; extended May, 1867, due 1897.

Second mortgage, \$4,000,000; date of issue March 1, 1849, due 1879.

Third mortgage, \$6,600,000; date of issue March 1, 1853, due 1883

Fourth mortgage, \$4,441,000; date of issue October, 1857, due 1880.

Fifth mortgage, \$926,500; date of issue June 1, 1859, due 1888

Buffalo Branch mortgage, \$186,400; date of issue July 1, 1861, due 1891.

The amount of Sterling Bonds £1,000,000 equivalent to \$4,844,400; date of issue Sept. 1, 1865, due 1875.

Under a statute of the State, the mortgage debt is convertible into stock only within ten years from date of issue. The ten years have expired on all but the Sterling Loan, and as that is selling at par in London, there is no danger of conversion.

There is no leased road that can be converted into the stock of the Company, except in compliance with the rules of the Stock Exchange by giving thirty days' notice; nor will any increase be made in any form, except in compliance with the aforesaid rules.

JAY GOULD, President,

H N OTIS, Secretary.

From this letter it appears that the nominal par value of the outstanding obligations of the Company is as follows:

Mortgage debt.....	\$23,397,300
Preferred stock.....	8,536,910
Common stock.....	70,000,000
Grand total.....	\$101,934,210

RAILROAD DEPOTS FOR PERU.—A contract for the building of fifteen depots for the Lima and Huaca Railroad of Peru, was recently obtained by Messrs. McRickards & Casey, of Greenpoint, Brooklyn N. Y., who have done all the work excepting the sash, frames, and doors. This part was sub-contracted to Messrs Self & Wygant, of the same city, and included 182 pair sash and window frames with trimmings, 3 feet 3 inches by 5 feet; 85 doors, door-frames, and casings, complete, average 2 feet 8 inches by 7 feet 5 inches high; 18 skeleton doors 3½ inches thick, 3 feet 7 inches high, frames and trimmings complete; 35 circular head-doors, 13 feet wide, 17 feet high, and three inches thick, and covered with sheet-iron; 1,000 feet of nosing, and 8,000 feet of molded battens. This contract was taken and completed in four weeks, and the contractors have given a further order for a large number of 4 by 6 feet trussed brackets ornamented, to be used for the road stations.

Vanderbilt in Bronze.

A colossal statue of C. Vanderbilt, the railway king, and an allegorical *bas-relief* illustrating the phases of his active career, have just been placed upon the front of the new depot of the Hudson River Railroad, in what was formerly St John's Park, New York City. The work is noticeable as one of the largest and most unique examples of bronze-founding hitherto executed in this country. Half a million of dollars was devoted to the enterprise, which was initiated by the building of a foundry especially fitted for the work. The models of the design, by Ernest Plassman, of New York city, were completed after some ten months of arduous labor; and in September last the task of casting the work in square sections of manageable size was begun and successfully completed by the Fischer Brothers. A strong scaffolding having been erected and carefully inclosed, the various parts of the work were securely boxed up, transported to the depot, and hoisted to the roof, where they were duly erected against a massive brick wall three feet thick, to which they were firmly fastened with iron anchors, more than 2,000 in number, and weighing above four tons. This great work covers an area of 3,125 square feet, measures about 150 feet in a straight line and 31 feet in extreme height, weighs about 100,000 pounds, and cost, as nearly as can be ascertained, over \$500,000. It consists of an immense bronze statue of Commodore Vanderbilt, placed in the center of a colossal *bas-relief*, which is ingeniously contrived not only to illustrate the career and achievements of the Commodore, but also to represent the marvelous inventions of the nineteenth century, and at the same time to portray allegorically the growth and prosperity of the great American Republic. The base-line upon which the *bas-relief* is erected is a narrow tier of blue stone. In the center, just beneath this and solidly inserted in the depot wall, is a huge carved block of granite weighing eleven tons. On this rests a bronze pedestal five feet high, and bearing the inscription, "Erected 1868." On this pedestal, within a spacious arched recess, stands the statue. This is twelve feet high, nearly solid, weighs four tons, and is the largest in America. The *bas-relief* is ten feet high at the ends, and is surmounted by an elegant granite cornice, which slopes gradually upward for about one-third the length from each extremity, turns suddenly up, runs along horizontally, and finally forms an arch in the center over the statue. The middle portion of the cornice is decorated with ornamental work in bronze. The *bas-relief* is terminated at each end by massive scroll-work representing leaves and plants. On the right hand, between the statue and the scroll, is represented by appropriate figures the Commodore's marine life, and on the left his railroad life.

GENERAL TICKET AGENTS' CONVENTION.—

The regular fall meeting of this association will be held at the Galt House, Louisville, on Wednesday, Oct. 6th., at 11. A. M.

—The grading of the Macon and Brunswick Railroad is about finished, 13 miles of track laying remain to be laid to Lumber City and about 35 miles on the other side of the Ocmulgee. A splendid outfit will be placed on the road, which will be in running order about Nov. 1.

Railroad Items.

—Broad Gauge in England is, says the N. Y. *World*, snailly done away with,—the Great Western Co., having, a few days ago, completed the work of changing its line to the narrow gauge, 4 ft. 8½ in., uniform with all of the railways in England, Wales, and Scotland. The G. W. has used the broad gauge for 20 years, and has lost money by it all the time. The road was constructed by one of the greatest of engineers—Mr. Brunel, as he was fond of building everything, “regardless of expense.” He knew that a broad gauge required more land for the track, wider bridges, wider tunnels, broader embankments and viaducts, heavier sleepers, chairs, and rails, and a greater expenditure of fuel. The narrow gauge of 4 ft. 8½ in. was adopted originally by George Stephenson, not upon any scientific principle, but because it was the ordinary width of the coal tramway tracks. Brunel’s wide gauge, on the contrary, was the result of certain deep scientific theories, but after 20 years’ experience the scientific gauge has been discarded for the accidental one. In 1844 a Royal Commission investigated the subject of a uniformity of gauge, and in 1846 it was decided that all roads subsequently constructed should be of the narrow gauge. In France, Germany, Belgium, and Italy the 4 ft. 8½ inch gauge has been universally adopted. In Ireland, however, where every thing is done on a principle of its own, the gauge is 5 ft. 3 inches. The Ulster road, the first built, was on the gauge of 6 ft. 2 in.; the next, the Drogheda line, was on a gauge of 5 ft. 2 in.; it became necessary to make a uniform gauge, and the authority to whom the matter was referred split the difference to 5 ft. 3 in.

—The Memphis, Holly Springs & Selma Railroad is making satisfactory progress under the indomitable energy of the President, General N. B. Forrest, and eminent skill and perseverance of the Chief Engineer, Colonel Minor Merriweather. Iron is now being laid west from Marion, Alabama, and in a very short time there will be twenty miles of the road, from Marion Junction west, ready for the cars. Under the favorable legislation of Alabama, the roads gets the indorsement of the company bonds by the State to the extent of \$16,000 per mile, and the same indorsement is to be made on each five miles of road as it is completed. These bonds can be sold in the market at above par. This State aid, with the county subscriptions of stock by each of the counties through which the road passes, insures the completion of the road, as speedily as the work can be accomplished, to the Alabama line. The road completed to the State line, brings it within fifteen miles of Columbus, which city, fully appreciating the situation, has already subscribed \$250,000, to bring it to that place, and if need be, will subscribe \$500,000, rather than not secure to herself and surrounding country the advantages of the road. The work will soon be commenced at Columbus going east, and rolling stock will be placed on both ends. The Mobile & Ohio road proposes to equip and operate the Columbus end until the Alabama and Mississippi end meet, or until the Selma Company shall have the means to equip the whole. This, we think, insures the road to Okolona or some point on the Mobile and Ohio road.—*Memphis Avalanche*, Sept. 8.

—The Toledo (O.) *Blade* of the 13th says: “The Atlantic & Lake Erie Railroad, one of the most important enterprises ever projected,

is being pushed with the utmost energy. The contemplated line is from Toledo on Lake Erie to Pomeroy on the Ohio River, running through Bucyrus, Crawford county; Mt. Gilead, Morrow county; Newark, Licking county, to Pomeroy. A meeting of the stockholders was held at Newark, O., on the 8th. Directors were elected, and the following officers chosen: D. W. Swigart, President; James Jaylor, Secretary; David Richards, Treasurer. The prospect of the success of this enterprise is incentive to the pushing forward as rapidly as possible of the Woodville & Northern Roads. The Atlantic & Lake Erie expect us to give them a track from Woodville to Toledo, and upon this the future of the enterprise depends.”

—The stockholders of the Indianapolis, Bloomington and Western Railroad have elected the following directors and officers: East Division, Samuel C. Wilson, George Nebecker, D. Rickets, B. E. Smith, J. M. McKee; West Division, J. C. Short, of Danville, J. O. Cunningham of Urbana, William Y. McCord of Bloomington, Ties Smith of Pekin. Hon. C. R. Griggs, President; Wm. H. Smith, Superintendent; Mr. King, Gen. Engineer; Mr. Lewis, Secretary and Treasurer. 10 first-class coaches, 3 second-class coaches, 100 box freight cars, and 100 flat or coal cars have been bought. All the iron for the road, except ten miles, and all the ties are purchased, 12 miles of the track east of Champaign is in running order, and work is progressing on the West.

—The Pacific railroads are doing a good passenger business. The train that arrived at Sacramento on the 30th ult. consisted of 14 cars, two of them being for second class through passengers. A large proportion of the second class travelers are foreigners, many of them scarcely able to make themselves understood in English. They go to the Pacific Coast in families, evidently intending to make that their home for the future. This train also took over the mountain 130 Chinese laborers, who have been employed on the Virginia City and Truckee Railroad; also 30 carpenters, who are going out to work on the Western Pacific Railroad.

—An old trapper, who crossed the western plains thirty five years ago, says that there was no grass at all, but only a few sage bushes and cacti. Now there is a thin soil formed over the sand and gravel, and grass covers the entire surface. It appears that this enriching process goes on faster and faster every year. This is why so many people have been astonished at not finding any “Great American Desert,” and conclude that it was only a myth. The truth is that it did exist, but has passed away.

—The Louisville and Nashville Railroad is 367 miles long, cost (with equipment) \$15,286,000, is doing a large and steadily increasing business, and has a bonded debt of but \$2,364,000. To retire this debt at maturity, and to effect certain valuable extensions which will largely increase their business, the Company have mortgaged the entire road, rolling stock, franchise, and income, to James Punnett and Junius B. Alexander of New York, to secure the payment of eight million dollars of First Mortgage Bonds.

—The Louisville and Frankfort and the Frankfort and Lexington Railroads, consolidated on the 11th inst. Each company retains its separate organization, both being partners in operating between Louisville and Lexington and joint owners of the Cincinnati branch.

—The people of Illinois are to vote at the general election, on the 2d of November, upon a proposed amendment to the State Constitution, which forbids the Legislature from relieving the Illinois Central Railroad Company from its obligation to pay into the State Treasury either the tax or the per centum of its gross receipts stipulated in its charter.

—The following are the officers of the Quincy, Alton and St. Louis Railroad: James W. Singleton, President; Edward Wells, Vice President; Thomas T. Woodruff, Secretary and Treasurer; Chauncey L. Higbee, Joshua Tibbetts, Eli Seehorn, Perry Alexander, Chas. H. Curtis, A. J. F. Prevost and Robt. L. Benneson, Directors.

—The Tehantepec Railroad will be 173 miles long. It will cost \$3,823,000. The difference in going from New York to San Francisco, by the Tehantepec route over the Panama route, will be 1,477 miles, and from New Orleans to San Francisco, 2,334 miles, saving six days in one case and nine in the other.

—The Louisville Council passed an ordinance on the 16th inst. submitting a proposition to the voters of Louisville at a special election to be held October 2d, to subscribe \$500,000 in aid of the contemplated Louisville, New Albany & St. Louis Air Line Railroad.

—The Chicago, Burlington, and Quincy Railroad having refused to deliver iron and ties at the intersection of the American Central Railroad, the Rockford, Rock Island and St. Louis Company will commence track-laying at Sagetown.

—The stockholders of the Richmond and York River Railroad Company have resolved to extend the road twenty-one miles to the Chesapeake Bay, thus shortening by eleven hours the time between Richmond, Baltimore and Philadelphia.

—The Missouri River, Fort Scott & Gulf Railroad now has trains running regularly to Fontana, 11 miles south of Paola and about 55 miles from Kansas City. From Fontana stages run daily to Fort Scott, about 26 miles.

—De Stansberg, who is now the Prussian Railway king, owning nearly have the railway lines in the kingdom, and being worth at least fifty million thalers, it is said, lived in a London garret seven or eight years ago, penniless.

—W. C. Thompson, late of the Boston and Albany Railroad Ticket office has been appointed General Freight and Ticket Agent of the Alabama and Chattanooga Railroad, at Meridian, Miss.

—The total subscriptions by counties and individuals to the Lafayette, Bloomington and Mississippi Railroad is \$1,293,000—\$808,000 in Indiana, and \$492,000 in Illinois.

—The total number of steamships of all countries, for the year 1868, is computed at 9,000, against 350 in 1840 and 1,100 in 1853.

—The Memphis and Little Rock Railroad will be in running order to La Grange, some ten miles west of Madison, in a few days.

—Every county on the line of the Lafayette, Bloomington and Muncie Railroad has voted for the road.

—Nine engines have been wrecked on the Hannibal & St. Joseph Railroad within a short time by running over cattle.

—Arrangements have been made to survey the route of the Evansville, Carmi and Paducah Railroad.

—The Kansas Pacific Railroad are negotiating for 500 acres in Wyandotte for carshops, &c.

—The gross earnings of the Central Pacific for August, were \$572,000 principally in gold.

—The first through freight train from Chicago arrived at Alameda on the 16th inst.

—The Macon and Augusta Railroad will be completed about next July.

Railroad Earnings.

The earnings of ten of the principal Western Roads given below show that the traffic of the first nine months of the year has shown a gain of over nine per cent:

	1869.	1868.	Inc.	Dec.
Chi'go & Al'n	\$2,962,028	\$2,747,430	\$214,598	....
Chi'go & N'w				
Western....	8,668,294	8,194,903	493,391	.....
Chicago, R'k-				
Island, and				
Pacific....	3,251,309	2,797,844	453,465	.....
Ill. Central...	5,219,702	4,649,145	570,557	.....
Maricopa and				
Cincinnati...	876,832	800,952	75,880	.....
Michigan Central				
.....	2,961,894	2,799,524	162,360	.....
Milwaukee &				
St. Paul....	4,037,702	3,430,340	657,362	.....
Ohio & Mississippi				
.....	1,741,773	1,856,091	.....	\$123,318
St. Louis, Al-				
ton & Terre				
Haute....	1,242,478	1,185,074	57,404	.....
Toledo, Wa-				
bash, & W'n	2,636,370	2,410,386	225,984	.....
Total....	\$33,648,332	\$30,880,059	\$2,868,273	\$123,318

—The earnings of the Cleveland, Columbus, Cincinnati and Indianapolis Railroad for July were:

1869.....	\$249,025 17
1868.....	218,768 78

Increase..... \$30,256 69

For August:

1869.....	\$341,783 12
1868.....	371,425 58

Decrease..... \$70,357 54

—The earnings of the Milwaukee and St. Paul Railroad for the second week in September were:

1868.....	\$227,588
1869.....	138,000

Decrease..... \$39,433

—The earnings of the Chicago, Rock Island, and Pacific Railroad for the second week in September were:

1869.....	\$130,900 85
1868.....	130,422 00

Increase..... \$478 00

—The earnings of the Chicago and Alton Railroad for the second week in September were:

1868.....	\$162,585
1869.....	130,733

Decrease..... \$31,852

—The earnings of the Michigan Central Railroad for the first week in September were:

1869.....	\$88,923 41
1868.....	87,918 10

Increase..... \$1,005 40

—The earnings of the Louisville and Nashville Railroad, for the eight months ending with August, 1869, show an increase of \$335,819.64

The Colorado Expedition.

FURTHER PARTICULARS FROM COL. POWELL—
HOW THEY RUN THE RAPIDS—EXCITING ADVENTURES

The *Chicago Tribune* publishes the following letters from Col. J. W. Powell, commander of the famous Colorado River exploring party.

ECHO PARK, MOUTH OF BEAR RIVER, }
Friday, June 18, 1869. }

On the 8th our boats entered the canon of Lodore—a name suggested by one of the men. We soon came to rapids, over which the boats had to be taken with lines. We had a succession of these until noon. I must explain the plan of running these places. The light boat, Emma Dean, with two good oarsmen and myself, explore them; then with a flag I signal the boat to advance, and guide them by signals around dangerous rocks. When we come to rapids filled with bowlders I sometimes find it necessary to walk along the shore for examination. If it is thought possible to run, the light boat proceeds. If not, the others are flagged to come on to the head of the dangerous place, and we let down with lines, or make a portage. At the foot of one of these runs, early in the afternoon, I found a place where it would be necessary to make a portage, and signaling the boats to come down, I walked along the bank to examine the ground for the portage, and left one of the men of my boat to signal the others to land at the right point. I soon saw one of the boats land all right, and felt no more care about them. But five minutes after I heard a shout, and looking round, saw one of the boats coming over the falls. Capt Howland of the No Name had not seen the signal in time, and the swift current had carried him to the brink. I saw that his going over was inevitable, and turned to save the third boat. In two minutes more I saw that turn the point and head to shore, and so I went after the boat going over the falls. The first fall was not great, only two or three feet, and we had often run such, but below it continued to tumble down 20 or 30 feet more, in a channel filled with dangerous rocks that broke the waves into whirlpools and beat them into foam. I turned just to see the boat strike a rock and throw the men and cargo out. Still they clung to her sides and clambered in again and saved part of the oars, but she was full of water, and they could not manage her. Still down the river they went 200 or 300 yards, to another rocky rapid just as bad, and the boat struck again amidships and was dashed to pieces. The men were thrown into the river and carried beyond my sight. Very soon I turned the point, and could see a man's head above the waters seemingly washed about by a whirlpool below a rock. This was Frank Goodman clinging to the rock, with a grip on which life depended. As I came opposite I saw Howland trying to go to his aid from the island. He finally got near enough to Frank to reach him the end of a pole, and letting go the rock he grasped it, and was pulled out. Seneca Howland, the Captain's brother, was washed further down the island on to some rocks, and managed to get on shore in safety, excepting some bad bruises. This seemed a long time, but it was quickly done. And now the three men were on the island, with a dangerous river on each side, and falls below. The Emma Dean was soon got down, and Summer, one of the men of my boat, started with it for the island. Right skillfully he plyed his oars, and a few strokes

set him at the proper point, and back he brought his cargo of men. We were as glad to shake hands with them as if they had been on a voyage round the world and wrecked on a distant coast. On the night of the 12th we camped in a beautiful grove of box elders on the left bank, and here we remained two days to dry our rations, which were in a spoiling condition. We found the wreck of a boat near our own, that had been carried above high water mark, and with it the lid of a bake-oven, an old tin plate, and other things, showing that some one else had been wrecked there and camped in the canon after the disaster. This, I think, confirms the story of an attempt to run the canon, some years ago, mentioned before. On the 14th Howland and I climbed the walls of the canon, on the west side, to the altitude of 2,000 feet. On looking over to the west we saw a park five or six miles wide and 25 or 30 long. The cliff formed a wall between the canon and the park, for it was 800 feet down the west side to the valley. A creek came winding down the park 1,200 feet above the river, and, cutting the wall by a canon, it at last plunged 1,000 feet, by a broken cascade, into the river below. The day after, while we made another portage, a peak on the east side was climbed by two of the men and found to be 2,700 feet high. On each side of the river, at this point, a vast amphitheater has been cut out, with deep, dark alcoves and massive buttresses, and in these alcoves grow beautiful mosses and ferns. Another day was spent on the waves, among the rocks, and we came down to Alcove Creek, and made an early halt for the night. The camp was made by a group of cedars on one side, and a mass of dead willows on the other. A whirlwind came and scattered the fire among the dead willows and cedar spray, and soon there was a conflagration. The men rushed for the boats, leaving all behind that they could not carry at first. Even then, they got their clothes burned and hair singed, and Bradley got his ear scorched. The cook filled his arms with the mess kit, and, jumping on to the boat, stumbled and threw it over-board and his load was lost. Our plates are gone. There are yet some tin cups, basins and camp kettles, and we do just as well as ever. When on the boats the men had to cut loose, or the overhanging willows would have set the fleet on fire, and loose on the stream they had to go down, for they were just at the head of rapids that carried them nearly a mile. This had been a chapter of disasters and toils, but the Canon of Lodore was not devoid of scenic interest. It was grand beyond the power of pen to tell. Its waters roared unceasingly from the hour we entered it until we landed here. No quiet in all that time; but its walls and cliffs, its peaks and crags, the amphitheaters and alcoves told a story that I hear yet, and shall hear, of beauty and of grandeur.

SUNDAY, June 20.—At the point where the Bear, or, with greater correctness, the Yampa River enters the Green, the river runs along a rock about 700 feet high and a mile long, then turns sharply around to the right and runs back parallel to its former course for another mile, with the opposite sides of this long, narrow rock for its bank. On the east side of the river, opposite the rock and below the Yampa, is a little park just large enough for a farm. The river has worn out hollow domes in this sandstone rock, and standing opposite, your words are repeated with a strange clearness, but softened, mellow tone. Conversation in a loud key is transformed into magical music. You can hardly believe that it is

the echo of your own voice. In some places two or three echoes come back; in others, the echoes themselves are repeated, passing forth and back across the river, for there is another rock making the eastern wall of the little park. To hear these echoes well, you must shout. Some thought they could count ten or twelve echoes. To me they seemed to rapidly vanish in multiplicity, auditory perspective, or perauditory, like the telegraph poles on an outstretched prairie. I observed this same phenomenon once before among the cliffs near Long's Peak, and was delighted to meet with it again.

CAMP AT MOUTH OF WINTER RIVER, }
ISLAND PARK, June 23, 1869 }

When we left Echo Park on the 21st, we soon ran into a canon, very narrow, with high vertical walls. Here and there huge rocks jutted into the water from the walls, and the canon made frequent and sharp curves. The waters of the Green are greatly increased since the Yampa came in, as that has more water than the Green above. All this volume of water, confined as it is in a narrow channel, is set eddying and spinning by the projecting rocks and points, and curves into whirlpools, and the waters waltz their way through the canon, making their own rippling, rushing, roaring music. It was a difficult task to get our boats through here, as the whirlpools would set them spinning about the canon, and we found it impossible to keep them headed down stream. At first this caused us great alarm, but we soon found that there was no danger and that there was a motion of translation down the river to which this whirling was but an adjunct. It was the merry mood of the river to dance through this deep, narrow, dark gorge, and right gayly did we join in the dance. Soon our revel was interrupted by the view of the cataract, and its roaring command was heeded with all our power at the oars as we pulled against the whirl current. The Emma Dean was landed against a rock, about 50 feet above the brink of the cataract. The boats following obeyed the signal to land. The Maid of the Canon was pulled to the left wall, where the cliff overhangs the water, and where, by constant rowing, they could hold her against the rock. The Sister was pulled into an alcove on the right where an eddy was in a dance, and in this she joined. I found that the portage could be best made off the right bank. The little boat was on the left, and too near the falls to be taken across, but we thought it possible to take her down on the lift. The Maid of the Canon was under the cliff, out of sight. The roaring of the cataract would drown any human voice, and I must get them word what to do. By much search I found a way along the cliff to a point just over where the boat lay, and, by shouting loud and slow, made them understand. The portage was made before dinner. Below the falls the canon opens out, there is more or less space between the river and the walls, which is often covered by cotton-wood and bowlders, but the stream, though wide, is rapid, and rolls at a fearful rate among the rocks. But we proceeded with great caution, and ran the large boats altogether by the flag. We camp at night at the mouth of a small creek, which affords a good supper and breakfast of trout, and proceed again by stages of a half mile to a mile in length. One, two, three, four miles we go, rearing and plunging with the waves, and shoot out into a beautiful park filled with islands—Island Park, we call it, and the canon above, Whirlpool Canon.

J. W. POWELL.

Georgia Mines and Furnaces.

(Continued from page 329.)

ROME MACHINE AND CAR WHEEL WORKS,
Of Noble & McCullough, John W. Noble, superintendent: The machine shop, boiler shop, offices, and engine house, are of brick—two stories high—front the Rome Railroad, in one continuous building three hundred feet in length. The smith shop and axle shop one hundred by forty-five feet; engine house and brass foundry, thirty-five by forty feet; foundry one hundred by forty feet; building for annealing car wheels, thirty by thirty-five feet—occupying the ground in rear of machine shop, and between the Rome Railroad and Etowah River. The machinery of the whole of those works are driven by five steam engines. A sixth is now building to suit the enlargement of their works in progress. There is also a large steam hammer for hammering car axles and heavy shafting, and a smaller trip hammer for lighter work. Fifteen thousand pounds of metal are melted here daily and made into car wheels and other machinery, consuming a proportionate amount of coal and coke and other material is used. A new melting furnace of a melting capacity of thirty thousand pounds daily, is being put up to meet the increase of business. One hundred wheels can be turned out daily, employing, when in full operation, two hundred workmen.

ROME MANUFACTURING COMPANY WORKS,
H. M. Anderson, president, Samuel Noble, general manager, adjoins Noble & McCullough—the building fronting the Rome Railroad, two hundred by one hundred and fifty feet deep. These works are for the manufacture of bar iron, plough steel rolled, car axles, bridge bolts, sheet iron, and cut nails. Two engines drive the several sets of rolls. The engines are connected, and are nearly 200-horse power.

A large beam engine of 80-horse power, drives the blowing fans and nail machines, and a smaller one the pumps, etc., for supplying the boilers and mill with water. Twelve boilers, each thirty feet long, furnish the steam power. These are placed over the furnaces for heating the iron to be manufactured—the waste heat and gases being carried under them for the generation of steam. There is also one large locomotive boiler to run the nail machine engine—thirteen boilers in all.

Those works will be in operation in October, and will turn out 20,000 pounds of manufactured iron daily, besides 200 kegs of nails, requiring daily 50,000 pounds of iron and 70,000 of coal, and employing 200 men.

The nail kegs will be made by machines capable of turning 400 daily.

The combined works of Noble & McCullough and Rome Iron Manufacturing Company occupy several acres, and will, when the whole are in operation, employ 400 workmen.

CORNWALL IRON WORKS,

W. S. Cothran, president; Samuel Noble, secretary and treasurer, 27 miles west of Rome, in Cherokee county, Alabama. At these works is made the pig iron from the ore that supplies the Car Wheel Manufactory and Rolling Mill. This company have two furnaces, each capable of making 20,000 pounds of iron daily. The company own about 4,000 acres of land, iron ore and timber. In a range of hills running near the property for several miles is an inexhaustible supply of iron ore, remarkable for its richness and the superior quality of the iron it produces. The ore yields 60 per cent. pure iron from the furnace, and

will in Philadelphia command \$15 per ton more than the Pennsylvania iron, on account of its superior quality. The car wheels made from it, when placed in competition with the wheels made in the North, by running them under the same car, have lasted double the time. Northern manufacturers can not use such iron in the manufacture of their bar iron, nails and steel, as it is too expensive to make charcoal iron, and their ores are inferior. Hence the products of these works will be of a quality that Northern manufacturers can not equal. Consumers at home can obtain iron that a knot can be tied in without breaking, and a cut nail that will clinch.

It will be noticed that I have said that the iron of Mr. Noble in its pig state would bring more by \$15 per ton than Pennsylvania iron, in Philadelphia. This, though strange, is true. The reason being that in this country, where the timber is so plentiful and the ore is so rich, (being 60 per cent. of iron and Pittsburgh ore being only 33 per cent.) that the Messrs. Noble make charcoal iron, while the Pennsylvanians make stone-coal iron, which has of course the impurities of the stone-coal, such as sulphur, etc.

About five miles beyond Cave Spring, there is a very rich iron bed, formerly owned by A. J. White, now belonging to the Cornwall Company—(Messrs. Noble & Brothers). The iron veins extend for many miles and are very fruitful. The ore is the brown hematite; much of it lies scattered over the ground in piles. The ore contains about sixty per cent. of pure iron, in some specimens as high as seventy-two per cent. These works will soon be opened by their enterprising owners. These are in Polk county. A few miles from these another bed of ore was visited. The ore containing about sixty per cent. of pure iron.

In Calhoun county, a few miles from Oxford, are found the Oxford Iron Works. These works were burnt by Wilson, the marauder, and have not been repaired. They produced when in full blast eighteen tons per day—had a capacity of twenty four tons. Black hematite is the kind of ore, and it contains about sixty-five per cent. of pure iron. This is a splendid investment for any company of capitalists.

The Pennsylvania iron interest is her richest interest, and she is a wealthy State. And yet the Pennsylvania ore has only half the richness that Georgia ore has; besides, in Pennsylvania, the coal has to be hauled to the iron works from a great distance, while, in Georgia, in almost every case, the coal is lodged in profusion in less than 100 yards of the iron deposits; and, in addition to this, the Pennsylvanians have very little timber, and can hence make very little charcoal-worked iron, while, in Georgia, the timber is almost inexhaustible; and finally, the transportation in Georgia is cheaper than in Pennsylvania, and the ore infinitely more abundant.

SHELBY IRON WORKS.

From Shelby Springs we proceeded to Shelbyville; to "develop" the Shelby Iron Works. We found these works far ahead of anything of the kind we had seen before, both in scope and arrangement. These works are owned by the Shelby Iron Works Company—Judge Lapsley, President, A. G. West, Superintendent. Over six hundred thousand dollars have been invested in these works, and at present there is three hundred thousand represented. Their capacity, is one hundred and nine tons per week, and they never turn out less than one hundred per week. This pig iron is sold at forty-one dollars per ton,

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON, - - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, -THURSDAY, SEPTEMBER 30, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

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WRIGHTSON & CO., Prop'rs.

The Southern Railroad and the Blue Ridge Railroad.

We have ever considered, that when a great Southern Railroad from Cincinnati should be made—whatever route through Kentucky should be selected, and whatever *termini* Cincinnati might select—that the direct line from Cincinnati to Charleston would be the axis on which all movements would turn. Before the war commenced, indeed, many years ago, South Carolina had commenced the Blue Ridge Railroad on as near a line as can be got toward Cincinnati. This road is in rapid progress, and we believe Gov. Scott has obtained the funds necessary to complete it.

We have spoken of this before, and now having noticed the last annual report of the Blue Ridge Railroad, we recur to it again, because the success of that road, and its immediate connection with Cincinnati is an element essential to the real success of the Southern Railroad. It is essential, because it will be the main feeder of the Southern road, and because, without this connection, it will be very difficult to keep up the interest of the people in the scheme.

Looking to the connection of Cincinnati and Charleston geographically, a straight line connecting them would be less than five hundred miles, and would pass considerably east of Kentucky, and considerably within North Carolina. But, railroads are not made on straight lines, and in a mountainous country must be very tortuous. A large part of the country between Cincinnati and Charleston is mountainous and unfortunately the road must be quite circuitous. The only good gap in the Blue Ridge is the Rabun Gap; and hence, the railroad was planned to go as nearly as possible from Columbia to the Rabun Gap, in the North-east corner of Georgia. This led

in the general direction of Knoxville, but a portion of the road is still in North Carolina. Passing the Rabun Gap the road enters the Valley of the Tennessee to a point in the dividing line between Georgia and North Carolina. Up to the Rabun Gap the road passes for many miles through rugged and frowning mountains. The cost and difficulties of grading seem very great. This surmounted, however, the country becomes comparatively open, and the greatest difficulties are over.

The description of the road from the North Carolina line we give in the words of Gen. HARRISON, the President of the road, in a letter to Gov. SCOTT:

In North Carolina, the road is laid in the valley of the Little Tennessee River, which, taken as a whole, presents a very favorable route. It is remarkable for its freedom from high bounding cliffs, which characterizes every other water course lying on the western slope of the Alleghany. The valley is formed of narrow strips of low ground and alternate spaces, where the mountain sides encroach upon the stream. The character of these hill sides is favorable to the object in view. They rarely expose a vertical cliff of rocks on which the grading will have to be effected. In order to avoid the circuit of the river at some points, save distance and place the line on more advantageous ground, it was deemed advisable to lay the line through the necks of several bends and cross the river several times.

The passage of the Smoky Mountains, which comprises a distance of twelve miles, three in North Carolina and nine in Tennessee, involves much less expense and difficulty than has been supposed. But one cliff extends into the water, and that is passed by a tunnel of one hundred feet, with approaches involving an excavation of only 3,338 cubic yards. The mountain sides for about five miles present the usual appearance of loose rock intermixed with earth, in some instances overlying solid rock. For the remainder of the distance, they consist almost wholly of sloping surfaces formed of fragments of rock, which have apparently been detached from higher points of the mountain and rolled down in their present position. The grading along these slopes will not be difficult of execution. The road-bed will be formed of the loose rock, which, reduced to a proper size, will be laid with some regularity on the lower side, at points where such a precaution may be necessary, to protect it from injury from freshets. The railroad in Tennessee, after emerging from the Smoky Mountains, continues in the valley of the Tennessee River, passing alternately through long stretches of low grounds and along the slopes of the hills and mountain sides, which occasionally impinge on the streams; on this portion of the line no difficulty occurs worthy of note. Eleven and a half miles from the Smoky Mountains the line leaves the river, and passes an eligible route, through a rolling fertile country, to Knoxville.

So much for the description of the passage of the Blue Ridge railroad through the very interesting and mountainous country on either side of the Rabun Gap. It might be supposed that the grades on this road would be steep and difficult, but they are not. From

west to east, which is in the direction of the heaviest traffic, there will be no grade higher than 45 feet to the mile, and from east to west only 70 feet. These grades compare with the highest grades on other roads as follows, viz:

On Virginia & Tennessee Railroad...	68 feet.
" Virginia Central.....	72 "
" Baltimore & Ohio.....	116 "
" Pennsylvania Central.....	53 "
" Sanbury & Erie.....	52 "
" New York & Erie.....	60 "

It will be seen that the grades on the Blue Ridge railroad will be less than the average grade of similar roads. Indeed, when we consider the powerful engines on these roads, the grade of the Blue Ridge will present no serious difficulty whatever. In the present state of engineering and of machinery, grades under 80 feet presents no obstacle to traffic.

The connections of the Blue Ridge road are what are most important to Cincinnati, because those connections are really to be the connections of the Southern road. Some of them are stated by Gen. HARRISON, as follows:

CONNECTIONS.

By reference to the map of the road it will be seen that the diversion of the road southwardly, which at first would seem to be an objection, in point of distance to Knoxville, is in fact an advantage, by its nearer approach to Chattanooga, which is now a focus of the South Western Railroads. At the confluence of Citico Creek with the little Tennessee River, the road deflects from the river northwardly to Knoxville; Citico Creek is thirty-two miles from Knoxville; Athens on the Georgia and Tennessee Railroad is fifty-four miles south of Knoxville; from Citico to Athens is thirty miles. A branch from Citico to Athens will save fifty-six miles in the distance from Chattanooga to Charleston. A company has been organized for the construction of this road, with State and County aid, and individual subscriptions, nearly sufficient for the purpose.

From Clayton to Ducktown, in the region of the copper mines, is seventy miles; and from Ducktown to Cleveland is thirty miles. The Hiawasse Railroad Company is chartered and organized for the construction of this road from Clayton to Cleveland.

The Hiawasse Railroad when completed will bring Charleston twenty-five miles nearer to Chattanooga than Savannah is, and one hundred and sixty-three miles nearer than Richmond.

At Knoxville the Blue Ridge road will unite with the Georgia and Virginia roads; Charleston will then be forty-six miles nearer to Knoxville than Richmond, and 96 miles nearer than Savannah. Both of these roads will form confluent to the current of trade through the Rabun Gap.

These are connections immediately around Chattanooga and Knoxville, but the connections of most importance to Cincinnati are those which look east from these places, and by reference to a railroad map, it will be seen that the Blue Ridge Railroad connects at once with Charleston, Wilmington, Fayetteville, and all the principal towns in North and South Carolina.

On this route Charleston will be about 500 miles from the northern line of Tennessee, and from that line to Cincinnati will be about 225 miles. Something near 725 miles will be the railroad distance from Cincinnati to Charleston. This is 50 per cent. greater than a straight line, but it can not be considered great, when we consider the mountain country through which it passes for more than half the distance.

In order to see what is gained by it, we will consider what the existing routes are, in comparison with this:

	Mls.	Mls.
Charleston to Cincinnati (via Baltimore).....		
1st Route.—Charleston to Baltimore (by sea).....	650	
Baltimore to Wheeling, "Baltimore & Ohio R. R.".....	380	
Wheeling to Cincinnati, by the Ohio River.....	383	
	—1,413	
OR,		
2d Route.—Charleston to Baltimore (by sea).....	650	
Baltimore to Wheeling, "Baltimore & Ohio R. R.".....	380	
Wheeling to Cincinnati, by the "Ohio Central" and Cin. & Zanesville R.R.s.....	245	
	—1,275	
OR,		
3d Route.—Charleston to Baltimore (by sea).....	650	
Baltimore to Cincinnati—By the "B. & O. R. R." and "V. N. W. R. R." and the Marietta & Cin. R. R.....	560	
	—1,210	

To go by Mobile, New Orleans, or any other possible route will be longer yet. We can see by this statement at once, how completely the Valley of the Ohio has been cut off from the Southern Atlantic. The least distance at which western produce from Cincinnati can now reach Charleston is 1,200 miles with two transshipments. But by the Southern and Blue Ridge road, it will reach there in 725 miles, and no transshipment. The difference is immense in proportion, and it will be seen that if this line is ever perfected, that the eastern Atlantic cities can not compete with Cincinnati for the trade of the South. This is the one great fact which make the Southern and Blue Ridge routes of supreme importance.

The following statement made by Gen. HARRISON, is most interesting, and most extraordinary:

Now a large portion of the corn, flour, bacon, lard and whisky, which is consumed in this State, is brought from Cincinnati, by way of Baltimore and Charleston. Hogsheads of bacon may now be seen in the depots of the Greenville and Columbia Railroad and Blue Ridge road, as far up as Walhalla, which came from Cincinnati. This bacon is carried 383 miles, from Cincinnati to Wheeling, by the Ohio river, when it is navigable, and 245 miles by railroad when it is not. From Wheeling it is carried to Baltimore, 380 miles, over the Baltimore and Ohio Railroad; by sea 650 miles, from Baltimore to Charleston,

and from Charleston 257 miles to Anderson, and 290 miles to Walhalla; nine hundred miles by water and seven hundred and ninety miles by rail, being 1,700 miles in all. Or, if the Ohio is not navigable from low water, or being frozen, the carriage from Cincinnati to Anderson is 882 miles by railroad and 650 by water, being 1,532 miles. If the bacon is carried to Anderson by way of New Orleans and Charleston, the distance from Cincinnati to Charleston is more than 2,000 miles by sea and river, and 257 by railroad from Charleston to Anderson. If it be carried from Nashville, the distance is 730 miles by railroad, and more than 600 miles by the Ohio and Cumberland rivers. If from Chattanooga, this distance is 575 miles by rail, and about 700 miles by the Ohio and Tennessee rivers. By no other routes can western produce be brought into South Carolina. By the Blue Ridge road the carriage of bacon, lard, corn, whisky, flour and tobacco, from Knoxville to Anderson will be only 195 miles. The distance from Knoxville to all the other western districts of the State may be calculated from Anderson.

The result of this, under present arrangements, is that western produce costs South Carolina double the price at Cincinnati.

When the direct railroad is made, this immense difference will be divided in gain between the South and the West, and both parties be immense gainers.

Cincinnati Southern Railway.

The following congratulatory letter from Col. E. HULBERT was received during the early part of the illness of Mr. Wrightson, and was laid away among other personal letters to be attended to upon his recovery. The long continued illness of Mr. Wrightson who is still confined to his bed, is an apology sufficient for its non-appearance in the RECORD:

T. WRIGHTSON Esq., *Editor Railroad Record*:

Dear Sir:—I am glad to learn that the Trustees of the Southern road have determined to put a corps of Engineers into the field at once. *This looks like work.*

All kinds of opposition to the enterprise may be expected, as also strenuous efforts from different parties in an endeavor to control the action of the Trustees in favor of some particular interest. Their well known character for integrity and high business qualifications, as well as their devotion to Cincinnati, is a sure guarantee that the great trust confided to their hands will be judiciously exercised in the interest of the people they represent and the future of Cincinnati.

I look forward with deep interest to the completion of the services of these Trustees—the location of the line—and the commencement of the work. With the means provided, energetically applied, in the hands of responsible contractors, we can look forward to the early completion of the road and the realization of the many great advantages which are certain to accrue to Cincinnati and her interests.

Respectfully, &c.,

E. HULBERT, Supt.

Automatic Car Coupling.

The number of men injured whilst engaged in coupling cars has been recently estimated to be five hundred a year in the United States. To this may be added at least one hundred more who are killed outright, making the shocking exhibit of *six hundred* persons killed and maimed annually in the exercise of this one simple duty.

So great a sacrifice in any other business would have, long since, commanded some relief, was it possible. Or, if such a slaughter occurred at any one time, or in installments of large numbers, there would be one universal outcry against so murderous a system; and the railroad companies would long since have stimulated the genius of the country, by handsome rewards, to the invention of some way of coupling cars without such perils. Instead of such encouragement, however, the railway companies of the country have been slow to test the few inventions for this purpose that have been proffered them.

Recently these sorts of accidents have been on the increase, and true to a law of things, the attempts to prevent their recurrence have been renewed; hence we have the announcement of several new patents for self-couplers.

Two of these have come under our notice within the past week, one of which seems to possess such merits as would justify a reasonable expense to test its practicability. All the objections we have ever heard brought against self-couplers are overcome in this one, and we are frank to say, that until a fair trial of its operations condemn it, we shall believe it is the very thing so long sought for.

The hook bar coupler, now partially in use by one or two of the roads running out of this city, possesses value as a passenger car coupler, but is in no wise superior for this use to the one we speak of, whilst for freight cars it is not the thing at all.

The invention of which we write is known as "The Automatic Car-Coupler," invented by Messrs. McLAIN and KELSEY, and patented May 25th, 1869. Its essential merits are:

1st. Cheapness, and ease of adaptation to our present cars.

2d. The use of a link, either straight for cars of even height, or bent to suit cars of various heights, which is caught by a pin similar to that now in use.

3d. The certainty of the attachment being made when the cars are forced together.

4th. It may be uncoupled upon the platform of a passenger car, and upon either side, or from the roof of a freight car.

5th. It is simple, without springs, or any thing that we can see, any more likely to wear and tear than the present means of connection.

6th. When the coupling is effected, it is firm and yet sufficiently yielding to admit of all the play required in fast running over rough roads.

We have no interest whatever in this invention, yet we are anxious it should be put to the test, believing, that if it is not *all* that is desired in an automatic coupler, it may lead to the perfection claimed for it, and be the means of mitigating if not of saving altogether the number of accidents of which we have spoken.

We hope any railway manager to whom this invention is presented will consider it well, and give it a fair trial.

The New Steam Boiler.

A new invention has been so far perfected as to warrant its submission to the public for trial. Mr. Silas C. Salisbury, an old inventor and scientific student, has been devoting his attention untiringly in Germany and France to the development of a patent steam boiler, by which the following effects may be obtained: First, economy of fuel; second, saving of room; third, rendering an explosion impossible; fourth, preventing incrustation; fifth, rendering it impossible to overheat the fire surface; sixth, increasing the intensity of the heating surfaces, as well as in extent; and lastly, utilizing the gases. First, in regard to economy of fuel. By having the coldest water coming rapidly in contact in small quantities between the two hot plates under such a pressure as to cause a circulation from the main boiler to the water-arch. This arch is surrounded on both sides by intense heat, and the circulation is increased in velocity just in proportion to the amount of heat in the furnace, by blast or otherwise; and as the circulation increases in velocity it brings the colder water in contact with the hot plates, which absorbs the heat as fast as produced, and the water so becomes highly heated. It is then discharged in the chamber above the water-line in form of wet steam, and as it is driven in all directions among the tubes, they again supply the heat to fully prepare the steam dry for use. By this process an equalized temperature throughout all parts of the boiler is kept, absorbing all the heat as fast as it can be produced. There is a second combustion chamber, in which the carbonic oxyds are utilized and changed to carbonic gases, supplying an intense heat above the water-arch and thence up through the main boiler, which gives a larger and intenser fire surface. The supply of hot water to the upper chambers of the main boiler (which is fitted with 5 feet 2 inch tubes) is so distributed in jets by contact throughout all the space above the water that over-heating is impossible. The whistle is so connected with the lowest gauge cock that an alarm is given when the water reaches that point, as it would take 1½ hours for the 20 inches below to evaporate, this length of time is given for escape from any possible danger. The space required for the boiler is less than one half of that of any other. Incrustation is prevented

by rapid circulation. The boiler possesses many other commendable features. Yesterday one was operating the iron works of Cobanks & Theall, and with fifty horse power was driving all their works, and at the same time was blowing off as much steam as was used. The valuable parts of this invention can be attached to other boilers.

OREGON CENTRAL RAILROAD.—The *Oregon Sentinel* says that Ben. Holladay has now sole control of the East Side road, and it will be pushed to the California line in time to secure the franchise. Iron for twenty miles has arrived, and the rest is on the way.

Air Line Railroad.

The Anderson (S. C.) *Intelligencer* of the 16th inst. says:

A large and enthusiastic meeting was held at Woodruffs, in the south-west corner of Spartanburg, on the 4th instant, in the interest of the contemplated line from this place. A number of gentlemen made interesting speeches, among others, Dr. B. F. Kilgore urged the superior advantages of the route from Anderson via Woodruffs to Yorkville—Dr. Kilgore enforced his argument by a subscription of 500 acres of land, valued at over \$6,000. Other speakers followed, and nine persons present subscribed \$14,000, pledged by real estate. The following resolutions were offered and unanimously adopted:

Resolved, That we the citizens of South-western Spartanburg, hail with lively satisfaction and great gratification, the construction of the contemplated Air Line Railroad. We regard it as a great artery of wealth, commerce and civilization, and are anxious for its speedy construction.

Resolved, That we will assist by material aid and in every manner otherwise to construct a road from Atlanta, Ga., via Anderson C. H. and Yorkville to Charlotte, N. C.

Resolved, That we will heartily co-operate with the above named points, in securing the location and constructing a road on this route which we believe is not only the shortest, but most practical, and promises greater advantages to our whole country than any other.

Resolved, That the Chairman appoint a committee, to represent our interest and to confer with the President of the road.

Resolved, That Anderson, Laurens, Union, Spartanburg, Yorkville, and Charlotte papers be requested to publish these resolutions.

MEMPHIS AND CHARLESTON RAILROAD.—At the recent annual meeting of the stockholders of this company at Huntsville, Ala., the directors were authorized to lease or purchase, as they may deem best, the Decherd, Winchester and Fayetteville Railroad; and in case they succeed in effecting the lease or purchase, then to build a branch road from or near Huntsville, to intersect the same at or near Decherd, in Tennessee, or such other point as the directors may consider for the best interests of the Memphis and Charleston Railroad Company.

—So great is the rush of goods southward, that the Short Line Railroad from Cincinnati to Louisville, and the United States Mail Line of steamers, have given notice that they can receive no more freight to points beyond Louisville at present.

Railroads in Mexico.

The effect of railways in increasing the population of a country and in promoting its general prosperity, is proved in a striking way by comparing the progress of the United States and of Mexico within the last fifty years. At the commencement of the present century the population of Mexico, it is stated, was one-third larger than that of the United States, and its six chief cities were larger and had more inhabitants than New York, Philadelphia, Baltimore, Boston and New Orleans. At the present time the same Mexican cities are less than half the size of Chicago, St. Louis and Cincinnati, which in the year 1800 were mere outposts of civilization. The population of Mexico now is about eight millions, while the United States in 1870, if they increase in the same ratio as between 1850 and 1860, will have more than 42,608,000 inhabitants. Of course many influences have been at work to produce the different state of affairs in the countries, and while the United States for the first sixty years of the century was comparatively at peace, Mexico was torn by domestic dissension and civil war. The railway, however, for the last thirty years has, by promoting the interchange of commodities and the rapid transportation of travelers, caused a surprising growth in all parts of the Union. Mexico is aware of these facts, and is now endeavoring to build up her railway system. A few years before the French invasion, an English company commenced building a railroad from Vera Cruz into the interior. Subsequently, the Government of Maximilian took possession of the road, and by means of liberal subsidies pushed the line farther to the West. When Maximilian was overthrown, the road reverted to the original Mexican Railway Company of England.

At a recent meeting of the stockholders of this company, held in London, an official report was made on the condition of the road and its financial prospects. From this document and the debate that ensued at the meeting, it appears that when the French retired from Mexico two sections of the railway were finished, one extending from the City of Mexico to Apixaco, a distance of 86 miles, and another from Vera Cruz to the bridge of Paso del Macho, a length of 47 miles. The income of these sections for the past year has been \$670,000, or \$5,000 a mile, although the gap between them is a wide one and most of the business conducted by muleteers, many of whom continue to go through from the sea to the capital, as it is difficult to connect with the unfinished sections of the line. On September 16th, 1869, it is announced, 51 miles more of the railway will be completed and brought into use. The upper section will then be extended 28 miles, and the City of Mexico will be connected with Puebla by an unbroken line of 114 miles, while the lower section will be carried forward 23 miles to Fortin, thus extending its length to 70 miles. The length of the road required to connect the two complete lines is not given, but as the distance between Mexico and Vera Cruz on an air line is 195 miles, and 184 miles of railroad will be completed in September, it is estimated that the unfinished section can not be over 50 miles. The time required to travel from the City of Mexico to Vera Cruz will then be reduced to about 16 hours, 8 hours of which will be spent on the railroad, and 8 in the stage coach or on mules. The funds for building the road are aided by an annual subsidy of \$420,000 from the Government, by grants secured upon the customs and by mortgage bonds of \$2,500,000 on the lower section.

Railroad Items.

—The Directors of the Indiana & Illinois Central Railroad held an important meeting in Terre Haute the 22nd inst., where they met a number of capitalists from the East, and contracted for the building of the entire line between Indianapolis and Decatur. All the rights, franchises, lands and stock are turned over to the Eastern men, who agree to build, equip and operate the road, commencing work within sixty days after the contract shall have been ratified, completing the entire line within two years. The bonus is seven hundred thousand dollars. The counties of Illinois have pledged their proportion, and the Directors are allowed sixty days to secure the necessary donations in Indiana.

—An application will be made at the next session of the New Dominion Parliament for a charter for the Union Pacific Railway, to be constructed from a point on Lake Superior, via the Red River, to a point on the Eastern boundary of British Columbia, with power to improve the navigation leading to and from Rainy Lake and Lake of the Woods; also for a charter to run a railway from Pembina, via Fort Garry, to a point on Lake Winnipeg or Saskatchewan River, with power to improve the navigation to Saskatchewan. A negotiation is in progress with reference to establishing a branch of the Bank of Montreal at Fort Garry.

—The Board of Alderman of Memphis has been hotly debating the question of selling the city stock in the Little Rock Railroad, amounting to 570 shares of \$100 each, in order to save the credit of the city. Several bids were offered, but the bid of \$100,000 by Col. Kellar, representing Warren Fisher & Co., of Boston, and others, who own the Little Rock & Fort Smith Railroad, will probably be accepted. Thirty days have been granted Col. Kellar to examine the condition of affairs of the road, he depositing \$15,000 as guarantee for the fulfillment of the contract.

—The Michigan Southern & Lake Shore Railroad Company have indorsed the bonds of the Leavenworth & Des Moines Railroad. The completion of this road and the bridge across the Missouri, will establish a route forty miles shorter than any other from Chicago to the Lower Missouri Valley, and make Leavenworth the intersecting point of the two great routes to the Pacific, viz.: From St. Louis, via the Central Branch and the Union Pacific, and from Chicago, via the Rock Island, the Leavenworth & Des Moines and the Kansas Pacific Railroads.

—The Chicago, Rock Island & Pacific Railroad Company have filed their acceptance of the act of the last General Assembly of this State, which allows railroad companies to divide their directors into three classes for different terms of service.

—A dispatch from Omaha says G. W. Frost, purchasing agent, has sued the Union Pacific Railroad contractors, for forty thousand dollars claimed for services during the past three years.

—The trial of James Griffin engineer of the freight train, in the Mast Hope disaster, ended in a verdict of "not guilty." The judge severely criticised the verdict, as contrary to the evidence.

—Mr. Z. F. Smith president of the Cumberland & Ohio Railroad, addressed the citizens of Madison, Indiana, on the 23d, in the interest of his road, producing much enthusiasm.

Railroad Earnings.

—The following statement of the earnings of the Lake Shore and Michigan Southern Railroad for the first week of September, like all statements of earnings hereafter, gives the earnings of the lines between Chicago and Buffalo:

1869	\$273,418 37
1868..	263,127 73

Increase.....\$10,290 64

—The earnings of the Chicago and Northwestern Railroad for the third week in September were:

1868.....	\$355,397 44
1869.....	294,812 35

Decrease.....\$60,585 08

—The earnings of the Chicago, Rock Island and Pacific Railroad for the third week in September were:

1868.....	\$146,140
1869.....	167,700

Increase.....\$21,560

—The earnings of the Milwaukee and St. Paul Railroad for the third week in September, were:

1868.....	\$254,430
1869.....	168,400

Decrease.....\$85,050

—The directors of the Panama Railroad Company have declared the usual quarterly dividend of six per cent. payable on and after October 5, at the office of the Company, No. 88 Wall-st.

—The Chicago and North western Railroad earned the third week in September, \$294,812, showing a decrease of \$60,585 under the corresponding week last year.

—The earnings of the Union Pacific Railroad for the first 17 days of September are officially reported to have been \$409,493 11.

—The entire receipts of all the railroads in Spain last year from passengers, was \$17,890,000.

The Prindle Rail.

Mr. Lyman B. Prindle seems to have hit upon a new idea; he has certainly struck out in an entirely original direction to find a better shape and a better attachment than any now in use. Whether his rail and chair will stand the test of experiment is to be seen and not foreseen; but, apart from the grave consideration that his rail is a split rail, and therefore subject to special causes of decay on the face, the invention is beautifully neat, simple and feasible. Mr. Prindle breaks joints by splitting his rail. In other words, he uses two bars, side by side, confined in a plain chair which has one side higher than the other. In cross section each bar has a half dovetail form. When one is turned upside down, they fit together, so as to make a nearly square split-rail having, in fact, an oblong square cross section. Each bar being grooved lengthwise on its broadside, it follows that the compound rail has a slot or groove running each side of its whole length. A jog on the

inside face of the lower arm of the chair fits into one, the inner, groove of the rail. A groove in the inside face of the higher arm of the chair corresponds to the other or outer groove in the rail. Thus the groove in the chair, and one groove in the rail make a square hole between the chair and the rail, into which slides a long square rod or key, which holds all firm. No matter how the rails are laid the grooves come all right on both sides. But Mr. Prindle lays the broader edge of the outside dovetail bar uppermost, and thus gets, as he thinks, a powerful binder for his inside bar.

Some of the more important advantages claimed for the continuous-rail, are:

1st. Avoiding all accidents arising from broken rails—as it is a well known fact that a continuous rail was never known to break in two parts, and thereby throw the train from the track.

2d. Being continuous, there are no ends to get crushed, therefore the endless rail is much more durable than the T rail.

Several hundred chairs, splices, and other devices to protect the rail ends from being crushed, have been patented in the United States, and as the object has not yet been attained, the problem remains to be solved, or less weight must be carried in the locomotive. About 95 per cent. of old rails taken from the track to be re-rolled, are crushed at the ends; about 5 per cent. are destroyed by lamination, and but one rail out of three thousand breaks. From careful inquiries through different sections of the country, the above is believed to be substantially correct.

3d. The endless rail has about 50 per cent. more strength, with the same amount of metal per yard, than any other rail yet made. Its shape gives the greatest possible strength that can be obtained with the same amount of metal. A bar of iron edgewise is not easily bent or broken; this is so obvious to every practical man, that it does not need further explanation.

4th. Why has the endless rail heretofore been a failure?

Because the T rail was split vertically through the head, and laminated much worse than the solid rail. It was also found to be impossible to hold the rails together with either rivets or bolts. The nuts would work from the bolts, and the rivets break. On every well laid track the wheel hits the whole surface of the rail, but the greatest weight comes on the inside of the track, and the shape of the T rail is such that, with the enormous pressure on the inside the lip or flange must give way or the rivets break; but with Prindle's rail there is no curve from the top to bottom of rail, and the wheel runs directly over the upright part, which is one continuous brace of great strength, making it impossible for the rail to laminate.

Some have raised objections against the keys—that a constant jarring will work them from their positions. This, however, is an error, as the surface bearing of the key on the rail is so much greater than on the chair, the rail may contract and expand, the key sliding in the chair and retaining its position in the rail, and no amount of jarring will work the key from its place.

The ease with which the rail is laid, and taken up, and reversed when one face is worn, without disturbing its chairs is a great recommendation. But we do not see how in a climate like ours, any split rail can escape destruction by frost and sand in the split.—U. S. R. R. and Min. Reg.

The Great Water Line Through Virginia.

From the time of a letter written by a Washington correspondent of *The Herald* on the water line through Virginia, one would suppose that "now it was proposed" for the first time to open this great work, and yet we are told in the same letter the old "James River and Kanawha Canal" was designed "to connect the waters of the James with those of Kanawha." Neither of these assertions is correct; the opening of a water line between the James and Kanawha Rivers is no new project, and there is not, and never was any such work as the "James River and Kanawha Canal," or any corporation bearing that name; nor did the James River and Kanawha Company in its charter ever contemplate opening a continuous water line through Virginia.

The facts in the case are simply these: In March, 1832, the "James River and Kanawha Company" was incorporated, with a capital of \$5,000,000, charged with the duty of connecting the tide waters and the Ohio by one of three plans: First—By extending the "Lower James River Canal," which was built around the Falls of the James River at Richmond, to some point up the river not lower than Lynchburg, thence by a railroad across the mountains to the waters of the great Kanawha, and thence by a slack water improvement of the Kanawha to the Ohio; or, secondly, by continuing that Canal, and from its termination up the James River, to construct a continuously railroad to the Ohio; or thirdly, to construct "a continuous railroad from Richmond to the Ohio." The James River and Kanawha Company adopted the second plan, and for many years labored hard for its accomplishment. With a view to test the feasibility of carrying the water line across the Alleghanies, repeated surveys were made, and experiments instituted with "rain gauges" to determine whether artificial reservoirs could be constructed in the mountains, and supplied with rain, capacious enough to supply water at the summit level for the canal. These surveys were made about 30 years ago, but proved unsatisfactory.

The third plan of constructing a continuous Railroad from Richmond to the Ohio, was never entertained by the "James River and Kanawha Company." In November, 1845, the writer first projected the plan of a continuous railroad from the Chesapeake to the Ohio and published his views at length in *Hunt's Merchants' Magazine*, and followed up his purpose against much opposition until February, 1846, when the charter of the "Richmond and Ohio Railroad Company" was obtained. About 20 years ago he also urged in various articles written for the purpose, the construction of a canal by means of a tunnel under the Alleghanies, through the heart of Virginia so that large barges could pass without breaking bulk from Norfolk up to the Ohio. It will thus be seen that the plan of a great channel of trade through Virginia from the Chesapeake to the Ohio both by canal and railroad are by no means plans of recent origin.

P. CLARK.

[Cor. N. Y. Tribune.]

—The C. R. I. & P. R. R. is soon to have a new postal car, which is said to be the finest in the country. It is fitted up with compartments for the mail for different sections in one end, and a separate division for the through California mail in the other. The magnificent equipments of this road are not surpassed by any road in the world.

The Bessemer High-pressure Hot-blast Furnace.

Mr. Bessemer has recently filed the English specification of another invention, which is of great importance in the production of iron and steel. Its main features may be regarded as an embodiment, for the purpose of fusing malleable iron and steel, of the experience gained by and principles proved in the Bessemer "converter." It has long been understood that Mr. Bessemer has been directing his rare ingenuity to some good plan for melting old rails and similar work; and we suppose that this patent, forming by its length almost a volume on metallurgy, is one of the principal results. The system also appears to have already been thoroughly worked out in practice. Mr. Bessemer first of all refers to what is really the distinguishing feature of his "converter"—the rapid way in which it produces the required heat:—"Intensity of heat, rather than quantity, is the condition essential to the successful working of furnaces employed" in melting wrought iron or steel containing little carbon. A substance which requires 3,000 degrees of temperature to produce fusion may be kept at a temperature of 2,900 degrees for whole days in succession without becoming thoroughly melted, when the mere addition of only 100 or 200 degrees of heat would, in that particular case, have produced a complete fusion of the substance in a very short period of time. In order to obtain this intensity, or rapid development, of the heat required, Mr. Bessemer has recourse to air at both a high temperature and a high pressure. Atmospheric air and other gaseous fluids in a heated state acquire a still higher degree of temperature by their compression "into a smaller space"—"such increase of temperature being in proportion to their reduced bulk, or to the number of atmospheres forced into the space usually occupied by one." He therefore constructs furnaces of sufficient strength to withstand an internal pressure of two or more atmospheres, observing that he does not propose by this means to generate a greater quantity of heat by the combustion or union of a given quantity of carbon and oxygen than is obtained by such means in well-constructed furnaces—for the compression of the gaseous products of combustion within a furnace does not generate heat—but merely concentrates into a smaller space, and gives greater intensity, to the same quantity or number of units of heat as would have existed in a more diffused state had not pressure been applied. Hence, wherever the temperature produced by the combustion of fuel in ordinary furnaces, having a free escape to the chimney, is, sufficient for any desired object—as, for instance, the evaporation of water in steam boilers—a loss would be sustained by compressing the gaseous products of combustion in such furnaces; for the amount of engine power required to compress the gases would exceed the power obtained from the increased quantity of steam generated in consequence of such compression—all other conditions being equal. But when the highest temperature produced in ordinary furnaces with a free escape is actually less, or where it only by small amounts exceeds the temperature absolutely required in any process, the case is entirely altered. Though a very high temperature, dependent on the pressure used, may be thus produced, Mr. Bessemer prefers, in order to have a moderate wear and tear in the furnace, a moderately rapid fusion. He states that, "in a small furnace using coke as fuel, with a cold

blast of 20 lbs. per square inch, and a pressure of 17½ lbs in the furnace over that of the external atmosphere, small test-pieces of cold wrought-iron were fused with great rapidity. For example, a piece of 2-inch square wrought-iron bar, 12 inches long, weighing 13 lbs., was introduced cold into the furnace, and was completely fused in five and a half minutes. In the same small furnace, 3 cwt. of wrought-iron scrap was put in cold, and was poured fluid from the furnace after an interval of fifteen minutes. The furnace was then working with an average internal pressure of 15 lbs. to 16 lbs. per square inch in excess of the pressure of the external atmosphere."

He believes "that a pressure of 20 lbs. to 30 lbs. over that of the external atmosphere will be found the most economical in practice, for it is probable that if a greater pressure is employed, it would raise the temperature so high as to drive the iron rapidly off in the form of vapor," as, in fact, generally occurs towards the end of the process in an ordinary Bessemer "converter." The materials to be melted in these furnaces are puddled iron or steel, finished iron or puddled steel bars cut into lengths, or steel purified by nitrate of soda, the crop ends of rails, old rails, ladle sculls, and other scrap. They are also to be employed in melting up the mixed steely metal for casting railway crossings, wheels, bells, anvil-blocks, stamp-heads, guns, mortars, and other articles. The system is to be applied to cupola furnaces, crucible furnaces, and reverberatory furnaces. In all these cases, the outer shell is preferably made of iron or steel boiler plate, with all the joints well caulked and made air-tight, and sufficiently strong to resist the internal pressure, though cast-iron shell may also be used. The furnace is to be lined with Stourbridge fire-brick, Dinas bricks, plumbago, or also ground ganister, on the plan now adopted for the Bessemer "converter." To fuse wrought-iron or steel without so much reference to purity as to cheapness, Mr. Bessemer prefers to apply this system to a cupola furnace, having a dome through which the metal and fuel are admitted. The circular door is carried on a movable iron arm, which itself carries an upright cylinder with a movable bottom, and into which the charge of fuel and metal is put to be fed in. To preserve the door from the heat and prevent leakage of flame and gases, a hollow channel is made round the door frame, into which steam or air, at a higher pressure than that within the furnace, is conveyed. The escape opening for the products of combustion can be altered in area by the insertion of small pieces of fire-clay. Several fire-clay tuyeres are used for conveying the heated blast, which is also at a pressure from 2 lbs to 6 lbs. higher than that in the furnace. A plan is also shown whereby powdered materials may be conveyed by the blast into the furnace. The cupola can be taken in two in order to be able to line it, in the same way as the Bessemer "converters" are lined.—*Mechanics' Magazine*.

THE "PNEUMATIC DISPATCH" IN PARIS.—The number of telegraph dispatches received at the central station in Paris has increased so considerably that the administration, finding it impossible to send them by porters in all directions to their respective destinations, has adopted a plan which is already in use for the transmission of letters. A continuous series of iron tubes, sixty-five millimeters (two inches and a half in diameter), has been laid down from the central office, in the Rue

de Granelle St. Germain, to the Hotel des Postes, and back again to the central office. This continuous line touches, besides at the Cercle Imperial in the Rue Boissy d'Anglais, then at the Grand Hotel, the Bourse, Hotel du Louvre, and the Hopital de la Charite. The dispatches to be sent off are put into a cylinder fitting loosely into the tube, but provided with a leathern desk, which closes the vertical section of the tube completely. The means of propulsion adopted is both simple and economical. At each station there is a cistern of water and a reservoir of compressed air; the water supplied by the town-pipe merely serves to compress the air, while the latter rushing into the transmission tube as soon as a communication with it is open, drives the cylinder before it with extraordinary celerity. Each cylinder may contain as many as forty dispatches, and a new one is sent off every ten minutes.

Horse Power.

From a paper read by J. S. Holland, C. E., R. N., Assoc. I. N. A., before the Institution of Naval Architects.

The principal use of the steam engine at its first introduction was to pump water out of mines; it easily followed that the new engine should be compared with horses, then in use for pumping, hence the term horse power of an engine. Watt would undertake to make an engine do the work of so many horses. Being generous he considered that a horse could raise 33,000 lb. one foot high in a minute; he fixed upon that for his horse power. And although he knew that the mean pressure per square inch of his piston would be more than 7 lb., he, to avoid all cavil with his customers, generously fixed upon 7 lb. as one of his factors in calculating horse power.

Knowing that a long stroke engine could work easier at a high velocity than a short stroke, he formed for himself a table of velocities of pistons for various strokes, and, at the time, it was formed on sound principles. So far as marine engines are concerned that table has long been obsolete. The 7 lb. are still retained, but the engineer is allowed to fix his own velocity of piston in his tender on negotiation with the ship owner. This brings me to the subject of this paper. It is the false statement in the tender that I object to.—Let us see what takes place at the beginning of a pair of marine engines. Assume that after every consideration has been given to the subject, a power of 6,000 horses will have to be developed. He calculates what he can do in the way of pressure on the piston, he then fixes his velocity, which being determined, the diameter of the cylinder follows as a matter of course; he then determines the fire grate and heating surface of his boiler, and the work is done. All this time he has never thought of such a thing as nominal horse power. Yet there is something else to be done. If the ship owner likes to have his engines working up to six times their nominal horse power, clearly there is nothing left for the engineer but to christen his engines 1,000 nominal horse power, and if the ship owners like to be cheated a little more, you have only to christen the engines 600 nominal horse power, and you have ten times the nominal horse power. You may accommodate the ship owner to any extent, but you must not tamper with the power to be indicated.

A case is now before me. An engineer stated in his tender that the revolutions would be 44 per minute; in working they went more than 88 per minute; the pressure was about

22 lb. Now the pressure being over three times the nominal and the velocity twice, he counted over six times the nominal horse power, and was patted on the back accordingly. If we are to have nominal horse power retained, we must stick to the old 7 lb. and reckon fairly and honestly the velocity expected. Then, if the engineer has made no blunder, the engines will move very near the expected velocity, and if they do, and give out three times the nominal power, we know that there was a pressure of 21 lb. In the case I have named, the engineer knew well that his engines would go 88 revolutions; he made his screw and his boilers to suit the number of revolutions.—The question may be asked, why did he give 44 revolutions? The answer is plain enough; there is a demand in the market for engines that, under one pretense or another, can be said to have contained their nominal horse power so many times in their indicated power, and where there is a demand there will always be a supply. It is against this practice I enter my protest.

If ship owners and ship builders knew the contents of this paper we would have little more chuckling of six, seven or ten times the nominal power. If nominal horse power is to be retained, let the pressure be still 7 lb.; let the engineer state fairly his expected velocity, and let credit be given to him for getting as much pressure into his cylinder as he can from a given boiler pressure, and for coming near to his predicted velocity.

As for nominal high pressure, there is no such thing. As it would be better to keep nominal power and indicated power as wide apart as possible, I would propose that what is very nearly an average, 10 lb., should be taken as the mean pressure. Nominal horse power has been called a commercial measure. If it ever was, it is no such thing now. Engineers know nothing about it; they are required to produce so much effective power, and they set about to do it. It will weigh so much, cost so much, and they make up their accounts.

I propose to abolish the term nominal horse power altogether; it is not only useless but pernicious. Ship builders are not called on to make vessels carry six or ten times their nominal tonnage, and, I ask, why should not engineers be allowed to be put on an equality with them, and have the privilege of calling a spade a spade?—*Van Nostrand's Magazine*.

The Peat Beds of Ohio.

Leavitt, in his work upon "Peat as an Article of Fuel," states: "We have at present very little information relative to the deposits of peat in Ohio, and this information is mostly from the Lake shore." It is a well known fact that peat has been discovered in large quantities on the Lake slope of Ohio and even in the interior. The beds recently found contain most excellent quality, varying from 78 to 90 per cent. of pure carbon. There is enough peat in the bogs of Ohio to last the entire northern part of the State for at least half a century, and perhaps much longer. The peat fields of Northern Ohio can be found in Summit, Lake, Portage, Wyandot, Geauga, Richland and Lucas counties. Within a region of 30 miles around Cleveland are perhaps 6,000 to 8,000 acres of peat bog, some deposits richer than others according to the stages of its growth. The peat of Hudson and Portage counties, comprising over 3,000 acres, with a depth of from 15 to 30 feet, your

correspondent has just visited, and of which he will give you a brief description. Taking the cars of the Cleveland and Pittsburg Railway, and passing along the shores of the lake for about two miles, you then strike out into an open country, slightly undulating, with here and there a clump of wood, and in an hour's time after leaving the "Forest City" you reach Hudson, the seat of Western Reserve College. From Hudson south four miles you enter the peat region. Five miles below Hudson the peat bogs can be plainly seen on each side of the railway. Three miles north of Ravenna a beautiful lakelet is reached, and the bog intervening between it and the track is one continuous mass of peat. To the right of this lakelet is a small elevation or hill, perhaps 20 feet in height, which contains a bed of dry, well-drained peat, perhaps 15 feet in depth. South one mile from this lake another bed exists on the borders of a small pond, but this is of inferior quality. In these tracts are perhaps 1,500 acres. Leaving these bogs no more indications are seen along the railway until Ravenna, the county seat of Portage, is reached. Leaving the cars at this point, you walk on the track about half a mile south of the town, and you reach a large peat bog which is being worked by a company of gentlemen from Cleveland. On the first of March, this ground was leased, and the month following operations commenced by drainage. It was not until about the 1st of May, however, that the bog was in working order. This bog comprises about 150 acres of peat, varying from 10 to 30 feet in depth. A force of about 25 men is now at work. The peat is first spaded, then thrown into an open car with sides, which, when being filled, is run up an inclined plane to a platform, where it is dumped into an immense hopper with a false bottom. The crude earth or peats falls into an elevator which carries it into a peat mill, and there it is ground up and the refuse separated from it while the peat is conducted below, where it comes out in molds, forming slabs which are placed on frames. The frames are rolled on a tram railway about 300 yards from the mills and are there taken off and placed transversely like the sides of a wall tent on the field to dry in the sun and wind. There is some shrinkage, but in eight or ten days the peat is sufficiently dry for the market, and is either piled up like oak bark, or is placed in warehouses for storage. The cost of this peat delivered is about \$6 per ton, which is about equal to the price of Massillon coal. It can be manufactured for much less than \$2 per ton, and when it comes into general use will no doubt be sold for from \$3.50 to \$4 per ton. The engine used at these works is a 40 horse power, horizontal cylinder engine. It takes about 1,500 pounds of peat to run it per diem. It has been in use since May, and thus far the boilers are as clean as when they were first put in. There is no dirt about peat, and scarcely any smoke. It has been stated that the rapid combustion of peat would prove disadvantageous to its use. This is a mistake, except where a great draft is necessary; for I was shown how easily the fire could be graduated from an intense heat to an almost imperceptible combustion, and this, too, in less than five minutes.

The analysis of this peat in the Portage county beds is of surface peat alone, and contains of pure carbon 68 per cent, of oxygen 18 per cent, of water 16 per cent, and of ash 3.68-100 per cent, besides combinations of oil and ammonia. Deeper strata will no doubt run it up to 80 per cent of pure carbon.—*Letter in New York Tribune*.

Railroad Patents

For the Week Ending Sep. 22d, 1869.

[From American Artisan.]

94,738—*Railway switch*—Daniel Haldeman, Mahoney City, Pa.

94,783—*Railway rail Fastening*—Edwin R. Shepard, Scranton, Pa. Ante-dated Aug. 26, 1869.

94,874—*Changeable-gauge Railway-car Truck*—Lancelot Davidson, Brantford, Canada.

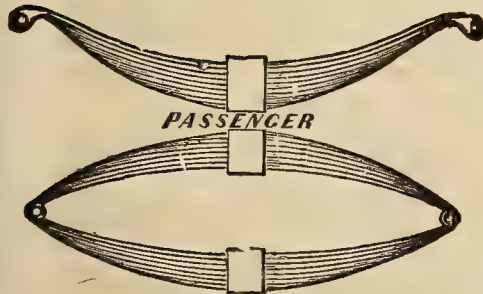
Rich deposits of magnetic iron ore have been discovered about 47 miles from Truckee Station on the Central Pacific Railroad. The position of the deposit is very favorable. Immense masses of it are exposed, and project above the general surface of the adjacent country, so that in one mass, 300,000 tons of ore, containing 40 per cent, or 120,000 tons of metal, can be got by quarrying. The total amount to be obtained by quarrying, as distinguished from mining, was estimated by Baron Richthofen at 1,400,000 tons. Frank E. Brown, civil engineer, reports that the ore can be extracted or quarried and reduced to the proper size for the furnace at \$2 per ton. Fuel for reducing the ore is very plentiful about eight miles from the mine.

RAILWAY SPRINGS.

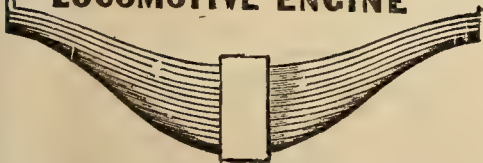
FREIGHT



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Philadelphia, Baltimore,

And Principal Points in
NEW YORK, NEW ENGLAND

—AND—
Pennsylvania.

This Railway extends from

CINCINNATI to NEW YORK, - 860 Miles.
CLEVELAND to NEW YORK, - 625 Miles.
DUNKIRK to NEW YORK, - 460 Miles.
BUFFALO to NEW YORK, - 423 Miles.
ROCHESTER to NEW YORK, - 385 Miles
AND IS FROM

22 to 27 MILES the SHORTER ROUTE.

TWO EXPRESS TRAINS DAILY

Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS,
(Sundays excepted.) Arrive Dayton 9.10 A. M.; Urbana, 10.28 A. M.; Galion, 1.00 P. M.; Mansfield, 1.41 P. M.; West Salem, 2.47 P. M. (Dine); Akron, 4.22 P. M.; Ravenna, 5.00 P. M.; Meadville, 8.00 P. M.—(Sleeping Coach through to New York); Susquehanna, 7.55 A. M. (Breakfast); Turner's, 1.42 P. M. (Dine); New York, 3.00 P. M. Connects at Ravenna with Cleveland & Pittsburgh Railroad for Hudson and Cleveland; at Birmingham for Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS,
daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.25 A. M.; Galion, 4.05 A. M.; Mansfield, 4.50 A. M.; Akron, 7.32 A. M.; Ravenna, 8.16 A. M.; Leavittsburg, 9.00 A. M. (Breakfast); Meadville, 11.30 A. M.; Hornellsville, 6.14 P. M. (Supper); New York, 6.30 A. M. Connects at Mansfield with Pittsburgh, Ft. Wayne & Chicago Railway for Pittsburgh, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities. New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through 860 Miles without Change.

Boston and New England Passengers, with their Baggage, are transferred **FREE OF CHARGE** in New York.

The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street, New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

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And Fare always as Low as by any other Route.

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Which can be obtained at the Company's Offices in Cincinnati, 80 West Fourth Street. 115 Vine St. 4 Burnet House, and foot of Broadway. (Spencer House Block) and at all principal Ticket Offices in the South and South-west.
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General Sup't. Gen'l Pass'r Ag't.

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J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
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Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City.	7 00 A. M.	9 20 P. M.
Toledo & Detroit.	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.	7 00 A. M.	5 25 P. M.
Richmond & Chicago.	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City.	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.	7 00 P. M.	9 20 A. M.
Richmond & Chicago.	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.	7 00 P. M.	7 55 A. M.

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For all information and through tickets, please apply at head office, south-east corner of Broadway and Front; or at the East House Office, corner Vine and Baker streets, and at the respective depots. East Front and West Sixth streets.

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JANUARY 5th, 1868.

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Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymr Acc
Leave CINCINNATI.	7 10 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR.	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES.	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN.	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Arrive SANDOVAL.	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS.	1 00 "	1 30 p.m.	9 40 "

Trains Arr. at C. O. H. 6 10 a.m. 11 30 p.m. 12 00 m.
For tickets or information apply at Offices, 132 Vine Street, Corner Front and Broadway and at Depot, Foot Mill Street.

C. E. FOLLET, Gen. Passenger Agent
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Best Route to St. Louis and Chicago

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ST. LOUIS, CAIRO, CHICAGO,

Memphis, New Orleans, Springfield, Quincy Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West. North west and South-west.

ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail.	6 30 am	12 20 am
St. Louis and Springfield Express.	3 35 pm	8 20 am
St. Louis and Springfield Express.	1 35 pm	3 30 pm
Lawrenceburg Accommodation.	10 00 am	2 35 pm
Lawrenceburg Accommodation.	4 45 pm	8 05 am

*The 10.35 pm. train will leave Sundays, but not on Saturdays.

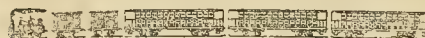
VIA WHITEWATER VALLEY DIVISION.

Chicago Mail.	7 00 am	10 00 am
Chicago Express.	6 30 pm	9 30 pm
Harrison Accommodation.	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the L. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
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Philadelphia, Wilmington & Baltimore RAILROAD!



FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

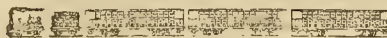
4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. (Express); 2.30 P. M.; 11.30 P. M. night.
On Sundays 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West 7.35 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. Express

SUNDAY TRAINS—Leave Philadelphia for Baltimore and Washington at 4.15 A. M., and 11.00 P. M. Leave at 11.00 P. M. for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

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W. P. SHINN, General Freight Agent.
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LOUISVILLE & CINCINNATI SHORT-LINE RAILROAD.

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THE SHORTEST ALL-RAIL ROUTE TO Louisville, Nashville, Memphis, New Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail.	7.00 A. M.	2.30 P. M.
Evening Express.	5.45 P. M.	9.00 P. M.
Walton Accommodation.	4.00 P. M.	9.30 A. M.

The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on the Walton Accommodation, offer great inducements to the citizens of Cincinnati and Covington who wish to purchase country residences or small farms for gardening. This train leaves late in the afternoon, and arrives early next morning, giving all day to attend to business. For further information as to routes, low fare, &c., please apply at No. 1 Burnet House, or Depot, Covington, Ky.

SAM'L GILL, Gen'l Sup't Louisville

CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Liberty st., connects at Hampton Junction with the Delaware, Lackawanna, and Western Railroad, and at East on with the Lehigh Valley Railroad and its connections, forming a direct line to Pittsburg and the West, without change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago, Cincinnati, St. Louis, etc., with but one change of cars. Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk, Williamsport, Wilkesbarre, Mahanoy City, Tuckhannock, &c.

7:15 a. m.—For Somerville.

8:30 a. m.—For Flemington, Junction, Stroudsburg, Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.

12 m.—For Flemington, Easton, Allentown, Mauch Chunk, Wilkesbarre, Reading, Columbia, Lancaster, Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.

3:30 p. m.—For Easton, Allentown, Mauch Chunk and Belvidere.

4:30 p. m.—For Somerville.

5:25 p. m.—For Somerville and Flemington.

6 p. m.—For Easton and intermediate stations.

7 p. m.—For Somerville.

7:20 p. m.—EMIGRANT—Stopping only at the principal stations.

9:00 p. m.—For Plainfield.

11:50 p. m.—For Plainfield, on Wednesdays and Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,) for Easton, Allentown, Harrisburg, and the West without change of cars to Cincinnati or Chicago, and but one change to St. Louis. Connects at Harrisburg for Erie and the Old Regions. Connects at Junction for Stroudsburg, Water Gap, Scranton, &c. Connects at Phillipsburg for Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Saturdays,) for Easton, Bethlehem, Allentown, Reading, Harrisburg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars to Pittsburg and Chicago. Connects at Junction with Delaware, Lackawanna and Western Railroad for all stations to Scranton. This train will be run to Easton on Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton, Allentown, Reading, Harrisburg, Pittsburg, and the West—connects at Harrisburg with train for Williamsport, Erie, &c.

Sleeping cars through from Jersey City to Pittsburg every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15, 8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:10, 2:10, 3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25, 7:40, 7:42, 7:40, 8:10, 9:00, 9:30, 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the Central Railroad of New Jersey, foot of Liberty st., N. Y.; at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at No. 10 Greenwich st., and at the principal hotels.

R. E. RICKER, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - } Editors.
T. WRIGHTSON,
W. A. MUNSELL, Associate Editor.

CINCINNATI, -THURSDAY, OCTOBER 7, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
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WRIGHTSON & CO., Prop'r's.

Commerce and Navigation of the United States.

To understand the internal commerce of the United States, even by railroads, we must understand something of our navigation connected with sail and steamboats and barges. The navigation of the country may be, and is divided into three parts, viz: the part engaged in foreign commerce; the part engaged in the coast trade, and the part wholly engaged in the interior.

1. The whole tonnage of the United States amounted on the 30th of June, 1868, to 4,318,309 tons.

This was divided as follows:

Coasting trade and domestic fisheries.....	2,733,166 tons.
Foreign trade and whale fisheries.....	1,585,143 tons.

Now, we perceive here by this simple table that the whole foreign and whale fisheries employ but 37 per cent. of the vessels engaged in navigation, while the coasting trade employs 63 per cent. This proves that the interior commerce of the country is much greater than the foreign, even when measured by navigation alone; but when railroads are taken into view it becomes ten fold greater. This interior trade has grown greater every year, and must continue to do so as the growth of population fills up the great interior of the continent.

2. The steam tonnage was 1,199,417 tons, being 28 per cent. of the whole tonnage. The steam tonnage was divided as follows:

Registered steam tonnage (that is ocean).....	221,938
Enrolled and licensed (that is domestic).....	977,466

It may be interesting to give the amount of steam tonnage in the several districts of this country:

	Steam Vessels.	Tonnage.
Maine.....	46	18,146
New Hampshire.....	4	452
Massachusetts.....	78	31,680
Rhode Island.....	29	28,055
Connecticut.....	64	36,165
New York.....	742	359,841
New Jersey.....	60	16,821
Pennsylvania.....	132	33,250
Delaware.....	26	12,829
Maryland.....	103	39,831
District of Columbia.....	27	4,540
Virginia.....	58	5,189
North Carolina.....	21	3,064
South Carolina.....	31	5,148
Georgia.....	2	782
Florida.....	30	6,007
Alabama.....	57	15,777
Mississippi.....	3	41
Louisiana.....	41	27,120
Texas.....	36	8,763
California.....	98	40,059
Oregon.....	31	8,188
Washington.....	13	1,647

Aggregate in the whole ocean coast.....1,732 703,625

NORTHERN LAKES.

	Steam Vessels.	Tonnage.
Vermont.....	6	3,256
New York.....	169	56,277
Pennsylvania.....	8	431
Ohio.....	65	16,099
Michigan.....	253	46,264
Illinois.....	88	10,848
Wisconsin.....	35	10,938

Total on northern lakes.....624 144,117

WESTERN RIVERS.

	Steam Vessels.	Tonnage.
Louisiana.....	230	52,025
Mississippi.....	15	2,396
Tennessee.....	63	13,412
Kentucky.....	75	22,818
Missouri.....	210	82,876
Iowa.....	28	3,258
Minnesota.....	58	9,774
Illinois.....	72	16,024
Indiana.....	26	5,293
Ohio.....	165	69,311
West Virginia.....	124	20,717
Pennsylvania.....	197	53,762

Total on Western rivers.....1,263 351,671

Total on Western rivers and Northern lakes.....1,887 495,728

Total number of steam vessels and tonnage in the United States.....3,619 1,199,353

Now, from these tables several interesting conclusions may be drawn:

1. The number of steam vessels on the interior waters is already greater than the number on the whole ocean coast, but—the tonnage of ocean vessels being so much greater—the ocean tonnage is in the aggregate greater. But the ocean and coast voyages are longer, and therefore not so numerous as those of the interior. On the whole, we think the tonnage actually carried by the interior steam vessels is the greatest.

2. These tables show an immense, almost incredible increase of the United States steam marine.

In 1852, a report was made to the Senate,

containing the statistics of the steam marine for that year. It is but seventeen years since then, and the number of steam vessels and tonnage have nearly trebled.

The following table presents the comparison between the steam marine of 1852, and that of 1868, as presented in the report to the Senate, and the Report on Commerce and Navigation:

	In 1852.		In 1868.
Vessels.	Tonnage.	Vessels.	Tonnage.
Steam marine on coast.....	625 212,500	1,732	703,625
Steam marine on lakes and rivers.....	765 204,725	1,887	495,728
Total steam marine.....	1,390 417,226	3,619	1,199,353
Actual increase in 16 years.....	2,229	782,127	
Increase per cent.....	160	190	

This is a most enormous increase and proves that steam vessels are rapidly taking the place of sail vessels. It shows also, that the average tonnage of steam vessels is increasing.

In regard to vessels, the number on the ocean and in the interior are in proportion nearly the same, but the tonnage of the ocean vessels increase much the most rapidly.

3. Another interesting fact is that the number and tonnage of steam vessels on the lakes tend—and that is a natural result—to centralize near the center of the lakes. For example, Michigan has 253 steam vessels, with 46,000 tons. This is almost all now centered at Detroit.

This fact confirms us in the opinion so often expressed in these columns, that it, Mackinaw—and we mean all the peninsula, not the island—must eventually be a great port, probably equal in magnitude and commerce to any on all the Northern lakes.

The tendency of shipping and of commerce—connected by an ocean, a great river, or a great lake—is to find some central point, whence the trade and voyages can be equally distributed. We might illustrate this by many examples.

In the case of Mackinaw, no point in the whole lake basin at all equals it as a natural center, or as a point where the radial lines flow so readily to all other points. Lake Superior, Huron, and Michigan lie right around it. The shores of the two former are scarcely settled at all; but as they do settle, they must find some central point of commerce. It is impossible they should find any so good as Mackinaw. Two great lines of railroad in Michigan will connect it with the whole region south, while the Northern Pacific road will connect it with Puget's sound, and a short voyage to Asia by the Pacific. These railroads are inevitable. Time may elapse beyond what we had hoped for to accomplish them, but they will all be made, and Mackinaw will rise, a great interior port.

Memphis and Charleston Railroad.

ANNUAL REPORT FOR THE YEAR ENDING JUNE 30, 1869.

The receipts and expenses have been as follows:

RECEIPTS.

From passengers.....	\$600,544 37
From freight.....	478,133 25
From Mail.....	34,371 53
From express and other sources.....	69,710 07
	<hr/>
	\$1,182,759 22

OPERATING EXPENSES.

Conducting transportation.....	\$254,125 91
Motive power.....	241,257 22
Maintenance of way.....	200,013 26
Maintenance of cars.....	86,149 88
	<hr/>
	\$781,546 27

Leaving net earnings..... \$401,212 95

The receipts for the first six months of the past fiscal year were..... \$554,854 27

And for the corresponding period of the previous fiscal year..... 653,499 25

Showing a decrease in receipts of 98,644 98

While for the last six months of past fiscal year the receipts were..... 627,904 95

And for the corresponding period of the previous fiscal year..... 521,414 88

Showing an increase in receipts of \$106,490 07

Deducting decreased receipts of the first six months..... 98,644 98

Shows an increase in receipts over previous fiscal year..... \$7,845 09

Although the receipts of the whole year show but small gain, the results of the past six months promise well for the future, it being a gain of \$106,490 07 in receipts over the corresponding period of the previous fiscal year. The reduction of expense has been as follows:

Total for 1867-8..... \$830,107 86

Total for 1868-9..... 781,546 27

Reduction..... \$48,561 59

Increase in gross receipts added..... 7,845 09

Makes an increase in net earnings of..... \$56,406 68

FINANCIAL CONDITION.

As stated in the previous annual report, the finances are easy, the roadway and rolling stock in fine condition. All that is now needed to produce increased net earnings is an improvement in the general business of the country, and consequently an increase in the receipts. Out of a gross receipt of \$1,182,759 22 during the past year the net earnings were but \$401,212 95.

The receipts of the road may greatly increase without adding proportionally to the expense.

If the receipts were increased 25 per cent, reaching..... \$1,478,000 00

Your expenses could not, we believe, increase more than 5 per cent, reaching..... 820,000 00

Leaving your net earnings \$658,000 00

This amount of receipts is nearly \$200,000 less than we obtained during the fiscal year ending June 30, 1867, and when the country fully recovers, our receipts should again be as great as then, in which event your net earnings would not be much under \$800,000 per annum.

CONNECTIONS.

In the last report reference was made to the future connections, the most important of which is from some point on our road to Atlanta, Ga. The prospects are now favorable to an early beginning of the work of building this line, as it is reported the contract has been let for that portion of the road between Guntersville and Jacksonville, Ala. The road from Decatur to Montgomery, Ala., is now under contract, to be completed by the first of January, 1872. These two southerly lines, taken in connection with the St. Louis and Iron Mountain Road via Columbus, Ky., and Corinth on the one hand, and via Memphis on the other, will give us a short line from the grain markets of the West to the cotton regions of the South-east, which must add materially to the traffic of your road. Besides this, it would give St. Louis a line shorter by one hundred and fifty miles to the Atlantic seaboard at Charleston or Savannah, than to the seaboard at New York, which must ultimately prove beneficial to the interests of the road.

Negotiations are now pending between those representing the Winchester and Alabama Railroad and ourselves for the lease of that road for a term of years. Should the conditions be confirmed by the Legislature of Tennessee, it will be our interest, to build, at once, a branch road from Fearn's Switch, six miles east of Huntsville, to the Alabama and Tennessee State line, there connecting with the Winchester and Alabama Railroad. This will not only give us the trade of several large counties in Tennessee, but also a connection via Decherd and the South-western Railroad with the line of road to be built from Cincinnati south, by which we will have as short a line from Grand Junction to Cincinnati as by any other route, and from any point east of Grand Junction on our road a much shorter line than any other to Cincinnati. This we regard as promising to become one of our most valuable connections.

The Memphis and Little Rock Railroad is progressing, with indications of a completion within twelve months. This road is on the proposed line of the Southern Pacific route, and in connection with our line, will form the shortest and best great thoroughfares from the eastern Atlantic seaboard cities to the Pacific coast, and its importance to us can not be over estimated.

There is a line projected and being surveyed from Memphis via Jacksonport, Ark., Springfield, Mo., and Fort Scott, Kan., to Junction City, Kan., on the Union Pacific Railroad, Eastern Division, the distance being 420 miles. This would, with the completion of the road from Atlanta, before mentioned, form a line of about 1,000 miles in length from Charleston or Savannah to Junction City, which is less than the distance from St. Louis to New York, and places Junction City 425 miles nearer the seaboard by this line than via St. Louis to New York.

On the 8th of May Col. Wm. Dickson, for many years a Director in the company, and a pioneer in the enterprise of building the road, tendered his resignation as a member

of the Board, the duties of which he had so faithfully and creditably performed.

At the annual meeting the following resolutions was passed:

Resolved, That the President and Directors of the Memphis and Charleston Railroad Company are hereby authorized to lease or purchase, as they may deem best, the Decherd, Winchester and Fayetteville Railroad, in Tennessee; and in the event they can not lease or purchase said Decherd, Winchester and Fayetteville Railroad, they be authorized to build a branch road from or near Huntsville, Ala., to or near Decherd, in Tennessee; and if under the authority we hereby grant to the President and Directors of the Memphis and Charleston Railroad Company to lease or purchase the Decherd, Winchester and Fayetteville Railroad, and if they succeed in doing so, we authorize them to build a branch road from or near Huntsville, Ala., to intercept the same at such a point as the President and Directors may consider for the best interests of the Memphis and Charleston Railroad.

The Board take pleasure in acknowledging the fidelity and capacity with which the business of the various departments of the company have been managed during the year.

CONDENSED BALANCE SHEET.

DR.

Construction proper:

Construction.....	\$6,354,943
Incidental to construction.....	1,025,818
Equipment.....	1,202,970
	<hr/>
	\$8,583,733

Stocks and property:

Stock in—

Miss. Central Railroad.....	141,600
South & North Ala. Railroad....	87,900
Southern Express Company.....	27,200
Memphis & St. Louis R. R.....	500
Shelby Iron Company.....	25,000
Mobile & Montgomery R. R.....	29,200
National Bank at Huntsville....	8,000
Nashville & Decatur Railroad.....	26,000
Railroad Hotel at Huntsville....	6,082
Telegraph.....	2,684
Road material.....	173,737
	<hr/>
	527,903

Interest and expenses:

Road expenses.....	781,546
Interest on State bonds.....	88,437
Interest and exchange.....	3,696
Interest on Company bonds.....	156,555
Tax account.....	26,038
	<hr/>
	1,056,273

Assets:

Bills receivable.....	39,564
Coupon bonds.....	596,500
Due from Railroads.....	185,082
Due from individuals.....	66,539
Due from agents.....	6,394
Sam Tate, Receiver.....	26,583
United States.....	12,319
Post office Department.....	20,897
People's Bank of S. Carolina.....	16,555
Georgia Railroad Bank.....	25,551
Cash.....	66,040
	<hr/>
	1,062,039

Total.....\$11,229,949

CR.

Capital:	
Capital stock.....	\$5,312,725 00
Funded debt:	
State of Tennessee	1,817,937 45
First mortgage bonds.....	1,293,000 00
Second mortgage bonds.....	1,000,000 00
	4,110,937 45
Floating debt:	
Bills payable.....	137,886 65
Past due coupons.....	32,690 00
Pay rolls.....	55,893 21
Dividends.....	85,294 28
Unpaid State interest.....	54,538 12
Unpaid United States taxes.....	3,867 52
Due to railroads.....	12,634 91
Due to individuals.....	130,550 64
	513,355 33
Profit and loss.....	99,667 03
Suspense account.....	10,505 87
	110,172 00
Receipts:	
Passage.....	600,544 37
Freight.....	478,133 25
Mail service.....	34,371 53
Express service.....	37,986 80
Rents and privileges.....	31,723 27
	1,182,759 22
Total.....	\$11,229,949 90

ALLEN SPRINGS, DE KALB CO., GA.,
VIA CHATTANOOGA, Sept. 25.

A grand free barbecue in honor of the capitalists building the Alabama & Chattanooga Railroad came off according to announcement. An immense gathering was present, notwithstanding the rain, this morning, and the threatening appearance of the weather during the day. The crowd was estimated at 5,000 people. Speeches were made by Gov. Smith, Ex-Govs. Parsons and Patton, of Alabama, Gen. N. B. Forrest, Hon. Mr. Tippy, of Conn., and others.

The Chief Executive of the State, Gov. Smith, appealed to the people to frown down on all violence and enforce the laws strictly, guaranteeing protection to all classes and shades, and political opinions. His speech was frequently applauded by the natives.

Gen. Forrest said he was for peace and development; said that the widows and orphans of the war should be cared for; said he was a citizen not of Alabama, not of Tennessee, not of any State, but of the United States. He counseled peace and obedience to the laws and their rigid enforcement. We welcome warmly all who wish to come among us from the North, to cast their lot with us. He appealed to the soldiers under his command who were present, to lend a helping hand to those engaged in this railroad enterprise. He said he once met them in the field as foemen worthy of his steel. Now he meets them cordially as his friends. The crowd listened with much interest, and frequently applauded.

Messrs. Stanton, Burr, Paynet, and Courtenay, of Boston, directors of the A. & C. Railroad, were present, and expressed satisfaction at the demonstration.

St. Louis, Sept. 30.—The South Pacific Railroad Company to-day completed their extension of sixty miles of road through the Bark Mountains from Little Piney to Lebanon, Mo.

Pittsburg and Connellsville Railroad.

Quietly but rapidly the great railroad line from Pittsburg to Baltimore—which is to give us direct communication with the South, and bring us one hundred miles nearer the ocean trade—is being pushed forward to completion. The greater part of the road has already been graded, and only awaits the completion of the heavy cuts and tunnels required by the road to lay down the rails and place upon them the rolling stock.

The country through which the road passes from Pittsburg to Connellsville is well known; but that portion between Connellsville and Cumberland has hitherto been comparatively unexplored, and is spoken of by all who have visited it as beyond comparison one of the most wonderful in mineral resources that has ever yet been developed in this greatest of all mineral sections of our country.

About twenty miles above Connellsville, about eighty from Pittsburg, and just midway between Pittsburg and Cumberland, a site has been selected for a city. About four hundred acres have been secured for the purpose, and the better portion of it laid out in eligible lots, which are to be exposed for sale at public auction on Thursday, the 7th of October next. It is the only place between Pittsburg and Cumberland where a sufficient amount of level land can be obtained for such a purpose. It is at the confluence of three rivers, the Casselman, the Youghiogheny, and Laurel Hill Creek. Each of these rivers flows from the finest farming and grazing country on the line of the road, extending into Northwestern Maryland and Western Virginia on the one side, and Cambria and Somerset Counties, Pennsylvania, on the other. In the limits of the proposed city the railroad company have fixed the location of their machine shops, round houses, and hotel. Here the passenger trains will stop for meals, &c. All the engines will be changed, as it is the western end of the mountain grade, and a different class of engines will be needed, as the grade over the eastern division from this point is double that of the western.—*Pittsburg Evening Mail.*

RARITAN & DELAWARE BAY RAILROAD.—The sale of this road took place on the 13th inst., at the depot of the company, Manchester, N.J. The sale was under a writ of *fiat facias*, issued to Robert S. Green, a Master in Chancery of New Jersey, by the bondholders of the line, for non-payment of a mortgage on the line and stock of \$1,000,000 and accumulated interest to the amount of \$1,700,000.

The property was sold in two lots, the first comprising the railroad and its corporate franchises and rights. The second consisted of the entire rolling stock of the company, the locomotives, cars and the steamboat Jessie Hoyt. Both lots were knocked down to the bondholders of the company after a very feeble competition, the first for \$50,000 and the second for \$74,000. These prices were only nominal, it being understood that the bondholders were determined to buy in the line, and no opposition was offered.

The new proprietors will have a fresh board of directors, of which Charles Gould, of New York, is proposed as President, and intend issuing \$3,500,000 worth of new stock and raising \$2,000,000 on fresh mortgage bonds, the majority of which is to be expended in putting the road into better working order and improving the stock.

Little Rock and Fort Smith Railroad.

In company with Capt. G. H. Meade, chief engineer, Capt. J. H. Haney, secretary, and J. S. Dunham, Esq., we paid a visit to the scene of active operations on the above road, on Friday evening. What we saw confirmed everything we have said on this subject heretofore. In the field of Judge Clendennin, immediately in the rear of his residence, the first party of workmen was met. From here, extending over a distance of two miles, gangs of men are at work grading as rapidly as possible. The squad on this end is moving toward the river, while those on the far end are making their way westward. About 150 men are now employed. During the present week a mile and a half of the road will be ready for the cross-ties. Although one would never suspect it, in traveling by the wagon road to Van Buren, the topography of the country is particularly adapted to the construction of a railroad. There will be no cut of more than six feet until the Palarm Hill is reached. Here, for about one hundred feet, there will be a cut of about 28 feet, the deepest on the entire route.

The next gang of hands will be placed on the western terminus of the first twenty miles and work this way. The line of the road is already chopped out on this section.

There seems no good reason to doubt that this first twenty miles will be completed by the first of April next. As soon as the grading is completed to the river, the ties will be put down, the iron laid, and construction trains placed on the road. Contracts have been awarded for bridge timbers, and cross-ties on the entire section.

Many bids have already been received for the building of sixty miles more, and the contracts will be awarded on the 1st October. At the same time the contract for the construction of a bridge over the river at this place will be given out. There are several bidders on this work also.

All of this has been accomplished within the past five weeks—and we feel no hesitancy in asserting that as fast as men and money can do it, the whole road will be put through.—*Little Rock Gazette*, Sept. 14.

BRUNSWICK & ALBANY RAILROAD, GEORGIA.—An Alabama correspondent of the N. Y. *Evening Post* writes:

"Of late years the Georgia State policy has undergone a sensible change. Before the war certain New York capitalists took hold of the Brunswick & Albany road. They expended several millions, and were in a fair way to make the work complete to the intersection of the projected Florida road, when the rebellion broke out. Everything they had done was swept away by the war. The rails were taken up; the rails arriving at Brunswick in 1861 were seized; the equipment run off, and a general sequestration consummated, the State of Georgia being a party to the spoliation. Since the war the wrong has been acknowledged by the Legislature. About three and a half millions are acknowledged to be due to the B. & A. R. R.; the importance of the repair and revival of the road recognized, and its extension to the State line guaranteed. The line is direct to Eufula, on the border of Alabama, and thence to Montgomery and Vicksburg. Fifteen thousand dollars per mile, State indorsement, on six per cent. bonds, principal and interest payable in gold, on 237 miles secured, the State acting

as trustee to the general mortgage, and pledging the punctual payment of interest as well as the reimbursement of the principal at the end of forty years.

"Nor is this all that Georgia proposes for Brunswick. State aid has been granted to the Macon & Brunswick road, a line by all odds the shorter and more direct communication as between Macon, Atlanta and Chattanooga, and the entire center of the State and the seacoast than the Macon and Savannah road. This road has also been taken in hand by New York capitalists. It will harmonize with the Brunswick & Albany, and will assuredly be completed in all the present year. Both lines pierce the very richest cotton regions of Georgia; both will contribute to the prosperity of Brunswick, and will together tend to establish at no distant day the supremacy of that point as the most eligible exporting mart for the Southern and South-western States south of Norfolk, Va."

A NEW ROUTE TO THE WEST.—It is not generally known to the public that a new link in the chain of railways connecting New York with the West is nearly completed, and that when it is opened the distance between this city and Chicago by railroad will be 95 miles less than it now is by the New York Central Road, 67 miles less than by the Erie, and 101 miles less than by the Camden and Amboy and Philadelphia and Erie Road. This link is the Danville, Hazleton, and Wilkesbarre Railroad, extending from Hazleton to Sunbury, Pa., a distance of 51 miles, connecting at the former place with the Lehigh Valley Railroad to Easton and New York, and at Sunbury with the Philadelphia and Erie and the Northern Central Road, leading down the Susquehanna River to the seaboard at Baltimore. Among the advantages claimed for this new road are that it will develop about 18 miles of coal lands along Black Creek and Black Mountain, and that it will furnish the shortest route to the oil regions and bituminous coal fields of the Philadelphia and Erie Railroad. The grading and bridging on this road have already been completed, and a large portion of the track is already laid; the company has purchased some of its rolling stock, and a portion of the road will be opened for traffic within ten days or two weeks.—*N. Y. Tribune.*

FAILURE OF VIRGINIA RAILROAD COMPANIES TO PAY INTEREST DUE ON STATE LOANS.—The following has been received from Richmond: Major Staunton, the Acting First Auditor of the State, states that the Richmond & Danville Railroad Company have paid into the State Treasury one-half of the interest due the State on its loans, and the remainder is to be paid December 15th, under instruction from General Canby. The Orange & Alexandria Railroad is yet behind. The annual interest due from that corporation is about \$18,000, while the Southside Railroad owes the large sum of \$252,000. The Virginia & Tennessee Railroad owes about \$420,000 interest to the State, and neither of the last mentioned roads appears to be in a condition to meet its liabilities at present. The Chesapeake & Ohio Railroad is negotiating a loan with which it expects to liquidate its entire indebtedness to the State, principal and interest, in all about \$350,000.

"I learn that the receipts of the Virginia & Tennessee Railroad within the past month amount to \$100,000.

Railroad Progress.

Between the Atlantic and Pacific coasts three great mountain ranges and one of the largest rivers of the world intervene; no small portion of the interior is an undeveloped wilderness. These formidable obstructions paralyzed progress for a long time, so that the whole district was wholly shut out from the seaboard. This was the exact position of affairs previous to the opening of the New York canal in 1825. The West was then unsettled in the proper meaning of the term. Now, however, the engineer has leveled the mountains and spanned the stream, so that the traveler can at present leave Portland, in Maine, and reach the Pacific in less than ten days thereafter. Many now living considered it the extent of speed to travel from New York to Buffalo in the same time. Before the canal was dug a ton of wheat in Buffalo was commercially worthless in New York, the cost of transportation to the latter port then being \$100 per ton. The same service is now obtained for a comparatively trifling addition to the prime cost at the port of supply.

This great revolution has been effected by the combined agency of canal and railroad. In all countries into which these powers have been introduced the same results have been gained, commerce, agriculture and manufactures having thus attained proportions surpassing the dreams of the slow races of old.

In no country, however, were these means more necessary or have they been more perseveringly pressed into service than in the United States. In the older countries, the mileage of canal and railroad is, indeed, in greater proportion to the extent of the country and population than in America. But in the magnitude of the works and in their bearing on the commerce of the world, those of the United States present a proof of enterprise unequalled. At the commencement of the current year, there were in the United States 42,255 miles of railroad. In all other parts of the world the mileage aggregated only 56,939 miles. It thus appears that the United States has 42½ per cent of all the miles of railroad in existence at present.

Yet this proportion is rapidly gaining, and before the year closes we shall certainly have at least 50,000 miles of iron-way. In whatever direction we go we find the people at work laying the foundations for future railroads. In Illinois at least a dozen lines are in progress, and the same may be said of Indiana, Michigan, Iowa and Missouri. Never before was such activity exhibited in this direction. Undoubtedly the completion of the first trans-Continental Railroad has stimulated States and associated capital to action, and the final result must be an enlarged internal commerce, with increased prosperity. When the Northern and Southern Pacific Railroads are completed other enterprises will succeed and become as necessary to them as arteries and veins are to animal existence.

In proof of the present activity in railroad construction, it is only necessary to recite a few facts, which will show that on an average each State of the Union has in progress at least seven or eight separate enterprises. Maine is now building eight railroads, New Hampshire, four; Vermont, six; Massachusetts, five; Rhode Island, (?); Connecticut, seven; New York, eleven; New Jersey, seven; Pennsylvania, thirty-two; Delaware, five; Maryland, seven; West Virginia, one, the Chesapeake and Ohio, and probably others; Ohio, at least a dozen; Indiana, Illinois and

Michigan, each about the same number; Wisconsin, five; Minnesota, seven; Iowa and Missouri, each a dozen; Nebraska, two or three; Kansas, nine; Arkansas, three; Texas, three or four; Louisiana, four; Mississippi, three; Alabama, six; and in the Southern Atlantic States, there are at least twenty great works on which progress is being made with unparalleled rapidity. In a short resume it is impossible even to name these enterprises; but any one acquainted with facts as they really exist, will readily admit that our estimates are moderate, and that we have now under construction at least 300 separate lines. Startling as this assertion may appear, it is nevertheless an incontrovertible fact. Many of these are hundreds of miles in length, and probably the average length is not less than 50 miles. This calculation gives a total of 15,000 miles as the length of railroad now in progress, and which will be completed within the next three years.

To the facts here related, and the raising of the necessary funds for carrying forward these projects, may be attributed in great part the spasms in the money-market during late months, but we shall discuss this more at large on a future occasion.

Changes produced by Manufactures.

At the commencement of the war, various causes combined to encourage manufactures, and a vast amount of new machinery was put in operation. From 1862 to 1869, woolen and other manufactures sprang up in the West, and noticeably in Illinois, giving employment to thousands of operatives, and also to thousands of farmers and mechanics in furnishing food, houses, furniture, and the like, all of which quickened industry to a degree before unknown in those regions. At Cincinnati many extensive clothing houses were established; at Chicago boots and shoes were made on an extensive scale, and recently this industry has been expanded in St. Louis to an extent scarcely excelled in Salem or Lynn. As fine cassimeres and other woolen goods are now made in Illinois and Wisconsin as in any other part of our country; in and near Chicago, American watches are made in large numbers; at Joliet, perfumery is manufactured, and put on the market in as attractive style as any from Paris. In many other places there are extensive establishments for making all kinds of wooden ware, while of agricultural implements, wagons, carriages, and all such common articles, requiring heavy machinery and the use of dies, the annual value can not fall short of \$100,000,000. Meanwhile, manufactures have increased through all the Eastern States, particularly in fine and costly fabrics, in cutlery, and in other articles requiring taste and skill. A visit to the Fair of the American Institute, now open, will exhibit a most wonderful variety of beautiful articles which have been produced by our own people, while the display of fine woolen fabrics, forming the "Woolen Exposition," can not fail to excite both admiration and astonishment.

Previous to 1860 Europe supplied many of these things, beside great quantities of railroad iron, and the transportation hither required the service of a large marine. Under these new conditions it must be manifest that comparatively less shipping is required now than was required before the war, and with these facts before us we can under-

stand why the two fine steamships *Erie* and *Ontario*, now tied to the wharves in Boston Harbor, have never yet made a voyage. Had the iron laid on the Pacific Railroad been purchased in England, not only these ships but many others would have found steady employment. That the shipping interest has declined is true, but with the growth of manufactures we become self-supporting, and pay less tribute to the sea.

All this furnishes another illustration of the well-known truth that when new machinery and new methods of business are introduced other interests must, for a time, suffer, and the only remedy is to turn that which is superseded into other channels and uses. This Boston ship-owners and merchants already have commenced to do, for they are seeking trade in other quarters, pushing their ships and goods into the Pacific, and already an extensive trade has been established with Australia. The most proper, and certainly the most profitable trade with a manufacturing and commercial people can establish is with a people less advanced, if not less civilized. The time can not now be remote when the countries of Eastern Asia shall be fully opened to us, and the result must be a transfer of much commercial business from the Atlantic to the Pacific coast, with a base of supply in the Mississippi Valley. With such a commerce a single railroad line will be insufficient, and it is probable that within the next two generations half a dozen lines will be required. Many things concur to this end, among which may be mentioned our vast extent of fertile country, lying across many degrees of latitude, a united people speaking one language, and the prevalence and growth of new and enlarged ideas.

We are beginning now to realize the power which manufactures possess over the destinies and welfare of a people, but the exhibition is not new; for England became great thereby; and, while becoming so, and while making us her victims, she forced us to learn her art. In like manner, while Napoleon was conquering Europe, he taught Europe how he himself was to be conquered. One other consideration in connection with this subject is of momentous importance. Our National Debt has fixed, for a certain number of years, such a tariff on foreign fabrics as inevitably must permit the building up of cotton manufactures over the coal-fields of Ohio, Indiana, Illinois, Missouri, and Kansas; and when they shall be in operation the vast and vital interests connected with them will demand their preservation, although it is highly probable that by the time our debt is paid they will be so perfected in machinery and in details of management as to bid defiance to foreign competition. In this case no large surplus can be spared from our cotton crops, and it must be seen that England has not begun any too soon to seek supplies in India. Surely great changes must result. First, the war which was required to abolish slavery gave our manufactures a wonderful impulse; second, the Pacific Railroad prepares the way for trade with China and Japan; and, third, the same causes which make this trade possible force England to extend immense lines of railway into India. And now, like the dawning of the solution of a mathematical problem, it is seen that instead of an antagonism existing between America and England, a combination—unsuspected, it is true—still not less real is formed, so that the Anglo-Saxon race and tongue, along with Christian civilization, may advance into the heart of Asia.

The Louisville Bridge.

The third annual report of the Jeffersonville, Madison & Indianapolis Railroad Company has recently been published, and, for several reasons is an important document. This company now owns the Madison road, the first built in the State, but the main line leaves Madison one side. One of the most interesting and—scientific mechanics—important parts of this report is the modest, clear, admirable account of the remarkable engine, built by Master Mechanic Wells, in the company's shops, to overcome the tremendous grade out of Madison. It is one of the most remarkable engines built in this country of its kind. Its parts, cast and power are described, and by it, even in the worst conditions of the rails, cars are readily taken up and down that inclined plane without the rough third rail of cogs and the wheel in the locomotive that matched in it formerly. This is a fine achievement.

President Ricketts makes a brief report of the operations of the road, and Superintendent Scott enters more into the details. The gross receipts the last year were \$1,064,523, the total expenses \$698,568, and the net earnings \$364,955. These figures are less than those of 1867, and mainly are owing to the sharp competitions among the great "trunk lines," producing smaller receipts at greater cost. Since last year the locomotives ran 51,533 miles more than in 1867. Mr. Scott has given a careful expose of the workings of his road, as to its business in passengers and freight and the cost of operating it. New iron, cross-ties and bridges are adding to the excellence of the road, and it is certainly a result most commendable to learn, that "no accident occurred during the year through the negligence of any officer or employe of the company by which any passenger or employe received personal injury."

What gives special interest to the present report of this company is its statement that the great railway bridge over the Ohio, at Louisville, will be ready for trains "by the end of October next." This is one of the finest and most important structures of its sort in this country. A bridge was projected over the Ohio at this place in 1829. In 1836 a new charter was granted, but it was not until 1862 and 1865 that the charter was obtained under which the present company acts. In December, 1866, subscriptions were solicited, and by the following February \$922,500 had been obtained. The largest stockholders are the Louisville & Nashville, and the Jeffersonville & Indianapolis Railways. The total cost of the bridge is set down at a million and a half, and one hundred thousand more for right of way and depot grounds. The length of the bridge is 5,280 feet, or nearly a mile. It is supported by twenty-five massive piers. The longest span is over the middle chute, and is 370 feet. At this point the bridge is 90½ feet above low water mark. There is a drawbridge over the canal of 11½ feet clear span. The grade from the Kentucky side is 82 feet to the mile, the grade on the Indiana side being nearly 79 feet. A long and heavy embankment is necessary on the west side of the river, and this is nearly done. This bridge, in addition to its railroad uses, is built for street cars and wagons, the supposition being that at certain times of the day—only one-eighth of the twenty-four hours—the railroad trains will occupy the bridge, leaving it free the rest of the time for ordinary travel. The estimates of this grand structure tell the story

of what it is. The masonry cost \$476,962, the iron superstructure \$776,090, &c., &c., the whole amounting to \$1,600,000.

There is one obstacle now in the way of the greatest success of this railway link; the two connecting roads are of different gauges, but this will soon be remedied. This will enable the palace cars and also freight cars to run from New York to New Orleans without change. The completion of this bridge at the falls of the Ohio must be an important step in the movements now in progress to gain, if not the control, yet a fair share of the Southern business. At present a part of this is taken by the Illinois roads, a part drops into the Evansville & Crawfordsville road—it will be larger soon—a large part must fall to the roads that connect on this Louisville bridge, and still another, and also an important share, will fall to the new route from Chattanooga to Cincinnati. At present it is evident that this Louisville bridge now so near completion, must gain for that route from the South-west to the East a commanding share of both freight and travel. This fact is enhanced by the completion of the first-class cut-off road by the Jefferson Railroad from its main track via Columbus to Cambridge City, where it joins the great Pan Handle Trunk for Pittsburg over the Pennsylvania Central.

HOW THEY MANAGE RAILWAYS IN SPAIN.—The *Saturday Review* relates an anecdote told to the writer by a traveler in Spain, and running as follows:

"On a certain line of railway in Spain, there was a bridge that was reckoned unsafe; and, therefore, it was ordered by the authorities which preside over railways that, until it could be made secure, no passenger train should pass over it without first setting down its passengers; the train and passengers would then proceed over the bridge separately, and the passengers be taken up on the other side. This arrangement continued for some considerable time, until the bridge was pretty well repaired, and all that was now needed was the direct official permission for trains to run over in their ordinary manner. This, however, from the dilatory habits of Spanish officials, was long in coming. At last an engine driver, of more than ordinary courage, thought he might as well take the bull by the horns and run over the bridge without stopping, trusting that the official eye, which had slumbered so long, might slumber just so little longer as to be incognizant of his audacious act. Vain man! When he arrived at the next station, he found that the news of his exploit had preceded or accompanied him; and the officials who had been so long incurious of the sufferings of passengers compelled in all weathers, in the hottest sun or the most pouring rain, to dismount and trudge over the bridge (not to speak of the inconvenience of the delay), were now all alive and filled with wrath at the contempt shown to their prerogative. The luckless passengers were forbidden to get out of their carriages; the train was driven backwards until it arrived again at the bridge, and (with the passengers still in it) was carried backwards over the bridge; then, to fulfill the requirements of the law, the passengers were compelled to get out, train and passengers crossed over the bridge separately, the passengers got in again, and the train went on as if nothing had happened. Then was the official deity appeased for the contempt that had been shown to him."

Railroad Items.

THE GREAT FRESHET AND THE RAILROADS.

A flood, almost unparalleled for destructiveness, has passed over the Eastern states, from Maine to Virginia. It has been especially damaging to the railroads, as will be seen from the following items, of the date of Oct. 5:

NEW HAVEN.—The most lamentable consequence of the flood in this vicinity is the giving way of the tunnel over the Housatonic River, at Birmingham. Two weeks' work would have completed the structure. Three hundred feet have been destroyed, and more than half the labor of two years swept away.

CONCORD, N. H.—No trains from the North have arrived, and none left to-day. The culverts of the different roads are badly washed. The trains between here and Boston run regularly.

BOSTON.—The embankment at Wilbraham, on the Boston and Albany Railroad, two hundred feet long and seventy feet deep, with a stone arch bridge, has been swept away, and Boston trains can not run west of Worcester before to-morrow night.

There were two accidents on the Troy and Boston Railroad last night. The first was a collision between a freight and a passenger train. Three employees were injured. The same passenger train was thrown into Hoosac River, at Hoosac Falls, by a wash of the railroad track, and three lives were lost.

The Hartford, Providence and Fishkill railroad is open to-day to Waterbury, but the breaks between here and Willimantic have not been repaired.

The New London, Northern road is open from New London to Willimantic; above the latter place it is impossible to run trains regularly on the Hartford and New Haven roads.

Nearly one hundred feet of the bed of the Claremont railroad was washed out; the rails, in some instances, sinking ten feet. The Montreal road is also reported in bad condition.

NEW YORK.—The condition of the Hudson River Railroad, north of Stuyvesant, is deplorable. For a long distance the track is covered with water to the depth of eighteen inches. No trains are expected to run through to Albany to-morrow. The road south, and as far north as Hudson, however, is in good order.

Trains on the Central and Erie roads are running regularly.

POTTSVILLE, PA.—The storm damaged none of the lateral railroads to any extent except the Little Schuylkill, between Port Clinton and Tamaqua. Six bridges are carried away, and the track badly washed. It will require three weeks to repair the road, and coal transportation will be suspended during that time.

The Lehigh valley railroad at Catasauqua is washed away.

The Lehigh and Susquehanna Railroad will sustain heavy damages, being washed at many points between White Haven and Bethlehem.

The Norristown and Reading Railroads are badly under water. The Baltimore road, between here and Wilmington, is four feet under water. Passengers go by boat to Wilmington.

ALLENTOWN, PA.—The bridge on the East Pennsylvania railroad, below Emaus, which was washed away, will be repaired to-night, and travel between Reading and Allentown will be reopened to-morrow. One train came through this evening. One of the tracks of the Lehigh Valley Railroad, between Catasauqua and Mauch Chunk, is badly damaged. It is also badly damaged at several places between Allentown and Easton, and will take several days to repair damages.

Passenger travel from New York to Wilkesbarre was resumed to-day, and, to-morrow, travel will be opened on all the railroads, except the Lehigh and Susquehanna Railroad, which is badly washed away, and will require considerable time to repair.

BALTIMORE.—The damage done to the Baltimore and Ohio Railroad is fully repaired.

—A correspondent of the *Chicago Tribune* says: "Work on the Alabama & Chattanooga Railroad is being prosecuted with great vigor, 3,200 men being employed on the work. The company expect to complete the road through to Meridian, Miss., within the next twelve months. This road completed, the link connecting New Orleans and Mobile with the shortest railroad route to the Eastern cities, will be supplied, and the next move will be the construction of a Pacific Railroad west from New Orleans. This road is owned by Boston capitalists, D. N. Stanton being the principal stockholder and President of the road. The work is being constructed in the best possible manner, with all modern improvements, and is really a first-class road. The depots and machine shops for the northern terminus will be erected in this city next season.

—There was a spirited railroad meeting at Columbus, Ind., last Wednesday, in the interest of an east and west road, at which articles of association were adopted for a line commencing at some point on the Wabash River, in Sullivan County, running thence westerly through the counties of Sullivan, Greene, Monroe, Brown, Bartholomew, and Decatur, to Greensburg. Delegates were present from all those counties, and the following Directors were elected: Decatur, W. Cumback and James B. Foley; Bartholomew, B. F. Jones, R. Griffith, and W. W. Herod; Brown, James S. Hester and Eugene Cully; Monroe, J. B. Mulky and James Small; Greene, Marcus H. Shryer and H. C. Owens; Sullivan, Joseph W. Wold and Sewell Coulston. Another meeting will be held at Bloomington, October 9.

—The parties who propose to furnish the means and build the Indiana & Illinois Central Railway, leading from Indianapolis to Decatur, are Messrs. Champlin & Lazar. Their proposition is to take the road as it stands and complete and own it, the company to turn over to them the real estate, notes, and all other assets it has, estimated at about \$200,000, and the counties or citizens along the line to raise a bonus of \$700,000 in addition, to be paid them on completion of the road. The counties through which the road passes in Illinois, it is understood, have arranged for their *pro rata* of the proposed bonus. It remains to be seen whether Parke, Putnam, Hendricks, and Marion, in Indiana, will likewise do so, and sixty days are given them in which to determine the question.

—The chief railroad of Florida extends from Jacksonville, near the north-east corner

of the State, nearly due west through Tallahassee, the capital, 20 miles further, to Quincy, a little town in the pine woods with no other connections either by rail or water to make it valuable as a railroad terminus. New arrangements have been made and contracts let to extend the road 22 miles further west to Chattahoochee, on the Apalachicola at the junction of the Flint and the Chattahoochee. This will enable the railroad to obtain business from the steamboats on these three rivers, which drain the most fertile cotton districts of Georgia and Alabama.

—The route for the Quincy, Missouri & Pacific Railroad has been surveyed from West Quincy through Benton and Newark to Edina, a distance of 48 miles. The cost of grading, tying and bridging this route is estimated at \$500,000. Another and shorter route is yet to be surveyed. On the other end of the route the survey has been completed from the terminus opposite Brownsville, Mo., to Maryville, in Nodaway county, about 45 miles. Harrison county votes on the 5th, on subscribing \$250,000 to the road.

—The work on the Fort Wayne, Muncie & Cincinnati Railroad is steadily progressing southward from this point. About eight miles of the track has been laid, and all the force the contractors can procure is employed in extending it. There is scarcely a doubt but the entire line will be open between this city and Cincinnati by the first of November. —*Fort Wayne Gazette.*

—The executive committee of the Cairo and St. Louis Railroad Company have closed a contract with Mr. J. J. Mitchell for the construction of the road from East St. Louis to Cairo. The work is to be finished within two years from the date of the contract. A survey of the route is to be commenced immediately.

—John W. Young, assisted by Bishop E. F. Sheets, is organizing, at Salt Lake City, a party of track-layers with which to commence the business of laying the rails on the Utah Central Railroad. This party, when organized, will immediately commence operations at Ogden, and the line will be pushed through as fast as practicable.

—The extension of the South Pacific Railroad of Missouri from the Little Piney through the Ozark Mountains to Lebanon, a distance of 60 miles, was completed on the 30th ult. The road now extends from Franklin, 37 miles west of St. Louis on the Missouri Pacific, 150 miles to the south-west.

—Robert Hale, who was for a long time General Superintendent of the Chicago & Alton Railroad, has been chosen General Superintendent of the Missouri Pacific Railroad, in place of H. C. Moore, resigned.

—Charles Wendell, late General Accountant of the New York Central Railroad, has been appointed its Assistant Treasurer. He has been in the accounting department twelve years.

—Juarez, accompanied by the Cabinet, members of Congress and Mr. Nelson, the American Minister, went to Puebla, where he inaugurated the Puebla and Mexico Railroad.

—Work on the Truckee Railroad has been suspended in consequence of the action of the Virginia and Gold Hill Miners' Union in driving off the Chinese laborers.

LOUISVILLE AND FRANKFORT AND LOUISVILLE AND LEXINGTON RAILROADS.—The recent consolidation of the Louisville and Frankfort and Louisville and Lexington Railroads rendered it necessary to elect new directors. A meeting for this purpose was held at Louisville on the 5th inst., when the following gentlemen were elected: Joshua J. Speed, Dr. R. C. Hewitt, J. H. Kalfus, C. N. Warren, Dr. Norvin Green, J. Guthrie Coke, Madison C. Johnson, Frank K. Hunt, Henry Bell.

The Directors will meet soon for the election of a President, and General Dudley will no doubt be their unanimous choice.

After the election of Directors, the following resolution was introduced and adopted:

"Resolved, That the route north of Main street, which has been suggested, could not be accepted, because of its excessive cost, because of the delay it would involve in the transfer of freight and passengers, and because of the unnecessary cost it would impose on such transfer."

A CARD.

A Clergyman, while residing in South America as a missionary, discovered a safe and simple remedy for the cure of Nervous Weakness, Early Decay, Diseases of the Urinary and Seminal Organs, and the whole train of disorders brought on by baneful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope, to any one who needs it, *Free of Charge*.

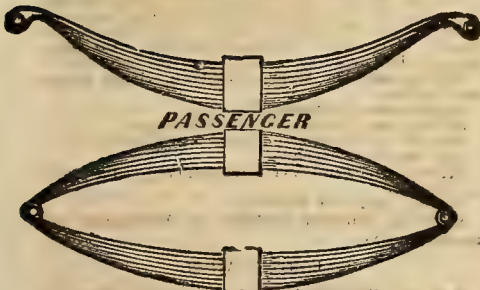
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Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS,

(Sundays excepted.) Arrive Dayton 9.10 A.

M.; Urbana, 10.28 A. M.; Galion, 1.00 P. M.;

Mansfield, 1.42 P. M.; West Salem, 2.49 P.

M. (Dine). (Sleeping Coaches through to

New York); Akron, 4.25 P. M.; Ravenna,

5.10 P. M.; Meadville, 7.55 P. M. (Supper);

Susquehanna, 7.55 A. M. (Breakfast); Tur-

ner's, 1.22 P. M. (Dine); New York, 3.00 P.

M. Connects at Ravenna with Cleveland &

Pittsburg Railroad for Hudson and Cleve-

land; at Elmira for Williamsport and the

South; at Binghamton for Cooperstown,

Albany and the celebrated summer resort,

Sharon Springs, and at New York with

afternoon trains and steamers for Boston and

New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana,

1.25 A. M.; Galion, 4.00 A. M.; Mansfield,

4.44 A. M.; West Salem, 5.55 A. M. (Bkfst);

Akron, 7.33 A. M.; Ravenna, 8.20 A. M.;

Meadville, 11.16 A. M. (Dine); Hornells-

ville, 6.19 P. M. (Supper); New York, 6.30

A. M. Connects at Mansfield with Pittsburg,

Ft. Wayne & Chicago Railway for Pittsburg,

Harrisburg, Philadelphia, &c.; at Meadville

with Franklin Branch for Oil City; at

Elmira with Northern Central Railway for

Harrisburg and the South, and at N. Y. with

morning trains for Boston and N. England

cities.

New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through 860 Miles without Change.

Boston and New England Passengers, with their Baggage, are transferred **FREE OF CHARGE** in New York.

The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street, New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

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Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City	7 00 A. M.	9 20 P. M.
Toledo & Detroit	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail	7 00 A. M.	5 25 P. M.
Richmond & Chicago	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada	6 00 P. M.	10 30 A. M.
Hamilton Accommodation		6 45 A. M.
Richmond & Chicago	7 00 P. M.	9 20 A. M.
Hamilton Accommodation	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Bureau House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

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JANUARY 5th, 1868.

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TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymr Acc.
Leave CINCINNATI	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS	1 00 "	1 30 p.m.	9 40 "

Trains Arr. at C. O'H. 6 10 a.m. 11 30 p.m. 12 00 m.

For tickets, or information apply at Offices, 132 Vine Street, Corner Front and Broadway and at Depot, Foot Mill Street.

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And all Rail and River Towns and Cities in the West, North west and South-west.

ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail	6 30 am	12 20 am
St. Louis and Springfield Express	3 35 pm	8 20 am
St. Louis and Springfield Express	10 35 pm	3 30 pm
Lawrenceburg Accommodation	10 00 am	2 35 pm
Lawrenceburg Accommodation	4 46 pm	8 05 am

*The 10 35 pm. train will leave Sundays, but not on Saturdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail	7 00 am	10 00 am
Chicago Express	6 30 pm	9 40 pm
Harrison Accommodation	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl Streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad; and within a few squares of the Postoffice and principal hotels and Steamboat landings.

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4.15 (Express Monday excepted), 8.15 A. M., 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore at Washington at 4.15 A. M., and 11.00 P. M. Leave at time for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

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The PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton, and Little Miami Railroads, still continue to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

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Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail	7 00 A. M.	2 30 P. M.
Evening Express	5 45 P. M.	9 00 P. M.
Walton Accommodation	4 00 P. M.	9 30 A. M.

The 7 00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on the Walton Accommodation, offer great inducements to the citizens of Cincinnati and Covington who wish to purchase country residences or small farms for gardening. This train leaves late in the afternoon, and arrives early next morning, giving all day to attend to business. For further information as to routes, low fare, &c., please apply at No. 1 Burnet House, or Depot, Covington, Ky.

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Passenger and Freight Depot in New York, foot of Liberty st., connects at Hampton Junction with the Delaware, Lackawanna, and Western Railroad, and at East on with the Lehigh Valley Railroad and its connections; forming a direct line to Pittsburg and the West, without change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago, Cincinnati, St. Louis, etc., with but one change of cars. Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk, Williamsport, Wilkesbarre, Mahanoy City, Tuckhannock, &c.

7:15 a. m.—For Somerville.

8:30 a. m.—For Flemington, Junction, Stroudsburg, Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.

12 m.—For Flemington, Easton, Allentown, Mauch Chunk, Wilkesbarre, Reading, Columbia, Lancaster, Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.

3:30 p. m.—For Easton, Allentown, Mauch Chunk and Belvidere.

4:30 p. m.—For Somerville.

5:25 p. m.—For Somerville and Flemington.

6 p. m.—For Easton and intermediate stations.

7 p. m.—For Somerville.

7:20 p. m.—EMIGRANT—Stopping only at the principal stations.

9:00 p. m.—For Plainfield.

11:50 p. m.—For Plainfield, on Wednesdays and Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,) for Easton, Allentown, Harrisburg, and the West without change of cars to Cincinnati or Chicago, and but one change to St. Louis. Connects at Harrisburg for Erie and the Oil Regions. Connects at Junction for Stroudsburg, Water Gap, Scranton, &c. Connects at Phillipsburg for Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Saturdays,) for Easton, Bethlehem, Allentown, Reading, Harrisburg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars to Pittsburg and Chicago. Connects at Junction with Delaware, Lackawanna and Western Railroad for all stations to Scranton. This train will be run to Easton on Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton, Allentown, Reading, Harrisburg, Pittsburg, and the West—connects at Harrisburg with train for Williamsport, Erie, &c.

Sleeping cars through from Jersey City to Pittsburg every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15, 8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:10, 2:10, 3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25, 7:00, 7:2, 7:40, 8:00, 9:00, 9:40, 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the Central Railroad of New Jersey, foot of Liberty st., N. Y.; at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at No. 10 Greenwich st., and at the principal hotels.

R. E. RICKER, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON, - - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI - THURSDAY, OCTOBER 14, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

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ADVERTISEMENTS.

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The Southern Railway.

We perceive, by an article in the *Cincinnati Gazette*, that the surveying parties have returned from a partial survey between here and Lexington. Col. GUNN's report represents a good route between here and Lexington, on 80 miles of distance. This we knew before; what is called the Ridge or Eagle creek route to Lexington was surveyed in 1836, and, we believe, made just 80 miles. At that time, it was feared the grades were too high, but all such ideas are past. What were great difficulties in 1836 are no difficulties now. The Ridge route to Lexington is 16 miles nearer, than that by the Licking route, which is a point of considerable importance in a direct line to the South.

Suppose we could gain 16 miles on each 100 miles to Charleston, it would be a total gain of 100 miles, or four hours of time; and we believe that good engineering will save at least half that in Kentucky. For this reason, there ought to be numerous surveys on various routes made.

But, some one may say, why not adopt the Kentucky Central now in use? For two very good reasons. In the first place, if Cincinnati opens the Kentucky Central as a part of its road, the trustees must either pay, or give the annual interest on the capital already in that road, and, therefore, there is nothing financially gained by doing it. The other reason is what we have mentioned, that is, that we gain 16 miles by the new route.

If the city is to give ten millions of dollars—which is amply sufficient—let it be as straight and as solid a road as possible. What Cincinnati wants is the commercial advantage of a direct and easy communication with the South, and not merely to save a

little money in the construction of the road. We are not arguing for either side of that question. Cincinnati would have the road, even by opening the Kentucky Central. What we mean to say is, that there ought to be several routes surveyed, especially in the Southern part of Kentucky, where no surveys scarcely have yet been made, and where there is great choice of routes. Money spent in this way will be the most economically spent money which will be laid out on the road. The history of railroad construction in this country will show this clearly.

We happened to go over the Pennsylvania road when it was first made, and also recently, and the errors made in its first construction would astonish one examining it now. There are many miles of the original road which are now totally abandoned, and there are routes now run on the road which might just as well have been taken in the first place, and would have avoided great difficulties and expense in the original construction. It is true, the first outlay is greater when the road is made right, but it is amply made up by the subsequent saving in time and friction.

The city of Cincinnati can afford to make the road right, and save money by doing it, hence, we say, let the preliminary surveys be full and complete. Then the road will be made better, and the cost of making it will be less. If money for this is needed, the City Council should advance it promptly, so that when the construction force is put on, the route may be made ready with exactness, and no delay, or extra cost be needed. Work well done is the cheapest.

From Lexington to a point on the Tennessee line near Chitwood's is but 90 miles from Lexington on a short line. From Lexington to Cincinnati is only 60 miles on a short line. We find that from Lexington to Cincinnati on a short line of 60 miles, we can get a good railroad line of 80 miles; that is, there will be an increase on the short line of one-third that line. The 90 miles from Lexington to the Tennessee line will, therefore, be increased 30 miles, which makes 120 miles as the railroad line, or 200 miles exactly to the Tennessee line. But, we have reason to believe that the line from Lexington to the Tennessee line really presents less difficulties than that to Lexington, which passes over the Eagle creek hills.

Having the cash on hand, and making all contracts for cash, the whole 200 miles can be made—easily and solidly made—for \$40,000 per mile. This will come to \$8,000,000, and leave \$2,000,000 for a bridge and contingencies. This shows that the original calculation of ten millions was very nearly correct.

Notwithstanding everything, so far, has seemed favorable to the success of the Southern road; yet, we must warn its friends that there are still dangers to be apprehended. One of these is, that unless people see active

measures taken, they are apt to lose their interest.

Several months have elapsed since the agitation on this subject and the vote of the people. The subject should be kept before the public mind, and as many surveys undertaken in Kentucky as possible. A successful opposition in the Kentucky Legislature would be nearly fatal, for it would drive Cincinnati back on railroad charters. There are plenty of them and good enough. But how can the city do that? The city is forbidden to hold railroad stock, or advance money to railroads. What then could it do? Possibly, the trustees might get along by leasing roads whether real or imaginary, and then completing them. But such experiments are dangerous, and we think unnecessary, if measures are taken to excite and keep up an interest in the work. If a reason existed for undertaking such a work by the city, it exists with ten-fold force to-day. For the Southern business of Cincinnati is fast increasing, and the outlets by the Nashville and Memphis roads insufficient. Every day the necessity for the Southern road is more and more demonstrated.

We are glad to see that two works in the South of immense importance to Cincinnati—if the Southern road be made—are fast progressing. One of them is the continuation of the Wells' Creek road in Alabama, which is to connect Chattanooga with New Orleans by way of Meridian. This would make a complete and pretty direct route from Cincinnati to New Orleans. The other is the Blue Ridge road of which we have so often spoken. This is progressing well, and may be regarded as practically a Cincinnati road. Governor SCOTT, of South Carolina, has taken deep interest in that work, and, we believe, has secured the funds.

In Kentucky there is, everywhere, great interest in the road, and so there is in Tennessee. If the Legislature of Kentucky legalize the construction of the road by Cincinnati, then the trustees will, doubtless, proceed to negotiate the bonds. This they will have no difficulty in doing, for Cincinnati has as high credit as any city in the world, and city bonds are favorite securities among monied men.

But we have not yet arrived at that point, and as we have just observed, there is need of discretion and effort yet to secure this great enterprise, and carry it to successful completion.

—In a few months, says the *Galveston News*, the Texas Central, building north, and the Galveston road, progressing south, will be but 375 miles apart. There are now about 400 miles between them. But a few months ago the distance between them was 500 miles; and now we have the promise that the work of construction is to go forward with more rapidity. Doubtless there will be delays, but if a reduction of 60 miles a year at each end is accomplished, a little over three years would effect the meeting.

Annual Report of the Tebo and Neosho Railroad.

The report of the above road, for the fiscal year ending May 31, 1869, accompanied by the Charter and By Laws, and a fine map, lies on our table for examination.

President Marvin prefaces the statements of his associates as follows:

During the year just closed your road has assumed an importance second to no uncompleted line in the State. The people interested in its completion have been awakened to its advantages, and stock subscriptions to a large amount have been placed upon the books. These subscriptions, added to those already secured, make an aggregate of \$1,424,700, of which \$1,262,166 10 is still available for the construction of the road. The entire line from Sedalia to Clinton is now under contract, and the road-bed will be ready for the ties and iron at an early day. It is important that it be put in running order as soon as practicable. Arrangements have been made at several points along the line for depot grounds, by which the Company secures valuable interests.

It will be seen that the total amount expended to date, on account of construction, engineering and contingent expenses, and right of way, is \$165,428 19, and that these expenses have nearly all been paid off, leaving the Company free from debt and unembarrassed. The Secretary's report contains valuable statistics of the counties through which the road will run, showing clearly that the traffic of these counties alone will be sufficient to make it a paying enterprise from the moment the first twenty miles are opened for business. But to these will soon be added the rich valley of the Neosho—the "Garden of Kansas"—to which our road will afford the most direct and convenient outlet.

The report of the Chief Engineer exhibits the amount of work executed during the year, the surveys that have been made, and estimates for completion to Fort Scott.

In conclusion, I desire to congratulate the Company and the people along the line of the road, on the present favorable situation of affairs, and the prospect of an early completion of the entire road, from north east to south west.

From the Secretary's report we learn that the policy of the Company is to "keep free from all entangling alliances," in the conviction that no road, in the State, can be built and operated as cheaply as yours, nor is any road located on a better, if so good a line. Any consolidation with any other road would, therefore, be at the expense of the stockholders in this road, and it would also prevent that healthful competition which the promoters of this enterprise desire, and which the traffic of Central and South west Missouri demands.

Which, like the old lady's opinion of total depravity, "would be a very good doctrine if people would only live up to it." When some of those New Yorkers or Bostonians shall spy out the land we tremble for these good resolutions.

The Tebo & Neosho Railroad Company was chartered in 1860, at a time when it was the practice of the General Assembly to confer upon such organizations liberal corporate powers, and to this company one of the best charters existing in the State of Missouri was granted.

The stockholders are exempt, under it, from individual liability, except as to the amount of stock by them respectively subscribed. Counties and incorporated cities and towns may subscribe to the capital stock of the Company, without the delay and expense incidental to elections, and without raising of the vexed questions with regard to the right of all interested parties to participate in giving their assent and aid to the enterprise. Thus, as you are aware, County Courts have recently made liberal subscriptions to the capital stock of your Company, upon petitions almost unanimously signed and assented to by the citizens of the counties referred to, without reference to the qualifications of the petitioners as voters. They are all interested as tax payers, and their wishes were properly and legally heeded by the courts. The Company may build branch railroads into and through any counties the Directors may deem advisable, and may bridge any of the navigable streams of the State, which its main line and branches may cross. The future control over the charges of the Company, for freight and passengers, can not without consent of the Company, be interfered with by legislative enactment, and the Legislature can not alter, suspend or repeal its charter. The exercise of that authority, it is believed by many, is denied to the General Assembly by the new Constitution; but, whether that belief be well founded or not, the Legislature, in granting the charter of this Company, expressly renounced that authority, and it can never be resumed. There are other important and valuable privileges, under the charter, which can not be enjoyed by companies organized under the general laws.

THE SURVEYS—SEDALIA TO CLINTON.

About the time the charter was granted, that portion of your road lying between Sedalia and the town of Clinton, in Henry county, was surveyed. The line was run with special regard to economy of construction, and it was found that more than one-third of the distance was so level as to require no grading, further than the simple throwing up of the road-bed. The entire cost of constructing and equipping that portion of the road was then estimated at \$450,000.

The war interrupted the work, and nothing further was done until 1866. In the summer of that year, an experimental survey was made from Sedalia to Fort Scott. "This survey," the Engineer states, "was made upon the most direct line from point to point, leaving to future surveys such changes as should be found advantageous." The distance between Sedalia and Clinton was, by this survey, less than 37½ miles, and the total distance between Sedalia and Fort Scott 102 miles.

A locating survey of the line between Sedalia and Clinton was made in the months of June, July and August, 1867, and reported to the Board of Directors in September following, at which time it was adopted, and most of the work on this portion of your road was put under contract, but want of means prevented the Company from pressing the work.

The distance, by the located line, between Sedalia and Clinton is about 38 miles. The estimated cost, not however embracing all the necessary items, is \$653,050, to prepare the road for the rolling stock. It is probable that the estimate will be exceeded by nearly \$100,000.

CLINTON TO FORT SCOTT.

In the summer and fall of 1868, the levels were taken upon the line run in 1866, between Clinton and Fort Scott, and it was

found to be, for most of the distance, of very easy grades. The distance is 64.38 miles. The estimated cost is \$1,295,000.

These figures are given from the Engineer's report, in round numbers, and represent the cost of completing the road ready for the rolling stock. Between Clinton and Fort Scott only one route has been surveyed. It is deemed judicious, before the road is located, to survey one, if not two, other routes.

VERNON, BARTON, AND JASPER COUNTIES.

During the past winter, a survey was made from a point on the Osage river, near Belvoir, about two and a half miles from Papinville, southwardly by way of Nevada City, the county seat of Vernon county, Lamar, the county seat of Barton county, and Carthage, the county seat of Jasper county, as far as the northern line of Newton county. The route was found altogether practicable. The distance is 73 65-100 miles, and the estimated cost of preparing the road-bed, ready for the iron, is \$710,000.

COOPER AND HOWARD COUNTIES.

During the past spring, experimental surveys have been made for the extension of our road northeastwardly from Sedalia. One line was run to Arrow Rock, a distance of 36½ miles from Sedalia. From a point on this line, near the north eastern corner of Pettis county, a line was surveyed to Boonville, making the distance from Sedalia by that route 44 miles. The surface of the country in a portion of Cooper county, upon that line, precludes the possibility of building a railroad through it, except at a very heavy cost, even if the route was not open to the objection of being a third longer than a direct line between Sedalia and Boonville. Another survey, upon the direct line to Boonville, has been made, and the distance found to be 33½ miles.

The surveys have been made for the purpose of finding the shortest and most practicable route between Sedalia and the river, and they will be still further prosecuted with that end in view. The general route by way of Boonville has, however, been adopted by the Company.

From the Missouri river, opposite Boonville, a survey has been made through Howard county to Moberly, in Randolph county. The distance is a little over 35 miles. The surface of the country through the southern part of Randolph and the northern portion of Howard counties, is broken by short ridges, but the cuts thus necessitated will not be very deep nor the fills very long; both, however, will be very frequent. From Fayette to the river, either of two excellent routes may be adopted. Upon the one surveyed there are encountered some elevations which will require deep cutting. The other route, down the valley of the Bonne Femme, is said to be nearly a water level.

The estimate for preparing the road bed for the iron, from Boonville to Moberly, is not yet completed, but sufficient progress therein has been made to render it certain that it will require a little over \$400,000 for a first-class road bed and the ties.

The country from the western limit of Cooper county to Fort Scott is one of remarkable beauty and fertility.

The timber is good along the streams, and the water, along the entire length of your road, is abundant. The alluvial bottoms of the numerous streams your road crosses are scarcely inferior, in fertility, to the Missouri river bottom lands. "The high timber and

prairie lands," says Prof. Swallow, "possess strong, durable and productive soils, admirably adapted to the culture of wheat, corn, oats, tobacco and grass."

South of the Missouri river, the grape, and all kinds of fruit grown in this climate, are produced in perfection. Stock raising is remunerative, and is a great interest. "The summers are salubrious, and the winters are so short that but little feeding is necessary," says the State Geologist of Missouri. All the tame grasses grow in great luxuriance, and the blue grass pastures of Howard county rival the blue grass region of Kentucky.

The soil rests upon limestone formation most of the distance. In Cooper and Howard counties the marly bluff formation and rich alluvial bottoms are crossed. Within a few miles of Boonville, traveling southwestwardly, the carboniferous limestone formation is reached, and that, with slight interruption, extends for nearly fifty miles to Henry county, where the coal measures begin, and extend to the western limit of the State, and southwardly to the southern part of Barton county. The characteristic rocks through this region are limestone and sandstone, the former predominating. The coal beds are continuous, and some of them, now being worked, are five to six feet in thickness. Your road will run through this coal field a distance of one hundred and thirty miles. There are also valuable deposits of coal in Cooper county, and it is probable that some of those wonderful veins, or pockets, of coal will be crossed by and worked along your road.

South and west of the point to which the southern line of your road has been surveyed, in Newton and Jasper counties, and in the section of country south of Newton, in our own State, and in Arkansas, are vast deposits of lead, some of which are now being worked with large profit to their proprietors, notwithstanding the slow and costly transportation to which the products of the mines are subjected.

The estimated population on the line of the road is 186,000, and the taxable wealth \$50,650,612, according to the State Auditor's report, though this is believed to be from 50 to 100 per cent below the actual value.

FINANCIAL OPERATION.

There has been paid out for :

Construction	\$165,428.19
The receipts have been.....	1,262,166.10
The Chief Engineer, Mr. E. A. Smith, reports the value of work done between Sedalia and Clinton for thirteen months at \$89,398.25.	
The amount expended to date	\$127,784.35
Estimated for completion.....	116,398.71
For the work between Clinton and Fort Scott	1,262,288.80
Or an average per mile of.....	19,606.84

Altogether, the road seems to be in good condition, financially and physically, and is an important link in our Western communications. It seems to be fully capable of helping itself, without any appeal to Hercules, as will be seen from our extracts.

We append the officers of the road for the current year: Directors, Morgan A. Taylor, N. G. Elliott, J. R. Estel, P. A. Laque, Robert Allen, R. H. Melton, Wm. Jennings, Harvey Bunce, John L. O'Bryan, Cyrus Newkirk, J. R. Barrett, A. C. Marvin, C. T.

Bobords, S. B. Gordon, R. F. Hepler. A. C. Marvin, President; Harvey Bunce, Vice President; Cyrus Newkirk, Treasurer; R. H. Melton, Secretary; E. A. Smith Chief Engineer. Executive Committee, N. G. Elliot, John L. O'Bryan, J. R. Estel, J. R. Barrett, P. A. Laque.

Trans-Continental Railway Convention.

The Convention met at 10½ o'clock, at Oswego, Oct. 7. On taking the chair, Mr. Driggs briefly addressed the Convention. A communication from the Hon. Joseph L. Wilson, Commissioner of the Land Office, was read. Speaking of the Central and Union Pacific Road, he said that was a compromise line sacrificing general to the local interests, while the proposed Northern Pacific line was a more direct one, easier of construction, and 500 miles shorter. He also pointed out other advantages in favor of the Northern Pacific, and regarded that as the line for a great transcontinental railway. The following resolution was adopted:

Resolved, That a direct railroad communication on the shortest line across the continent, with the Eastern terminus at Portland on the Atlantic, and the Western terminus at the mouth of the Columbia or at Puget sound, on the Pacific, is demanded as a great commercial highway, not alone by the entire intermediate territory directly interested, but by both the continents of Asia and Europe.

The Committee on Resolutions submitted the following report:

Whereas. It is the duty of every General Government to promote by every proper means the safety and welfare of those under its protection; therefore,

Resolved, That in the opinion of this Convention, greater railway facilities between the Mississippi and the Pacific States than are now available are demanded by the increase in population of the country and the necessity of commerce.

Resolved, That it is the duty of the Government, as well as its truest policy, to give such reasonable and necessary aid as will promote the building, at the earliest day, of two additional lines of railway to connect the States above named by the Northern Pacific Railroad and a Southern Pacific Railroad.

Resolved, That the line projected above, when extended, as it ultimately will be, in connection with the Northern Pacific Railroad, along the Pacific coast, northerly into Alaska, and on the east to the Gulf of St. Lawrence, would constitute by its great reduction of the extent of ocean transit the most convenient means of communication between the densely peopled portion of Europe and Eastern Asia; and that our new nation would derive from such a line of communication great commercial advantages, which would contribute largely to the prosperity of our people, while at the same time it would constitute a powerful and most efficient means toward the general civilization of the globe.

Resolved, That in pursuance of the call of this Convention and the particular object to be promoted by it, that we view with especial interest and favor the efforts now making to secure a continuous and independent line of railway from Chicago to the seaboard, by the route of the Lake Ontario Shore Railroad, and thence eastward by the best and most feasible route into New-Eng-

land, and to the harbor of Portland and the Ossipee Valley, affording, at the same time, the increased facilities required for Western trade, seeking access to New York, Boston, and other Eastern Atlantic ports.

Resolved, That the Secretary of this Convention furnish to the Chairman of the Congressional Committees on the Pacific railroad, on Finance, and on Ways and Means, when Congress again assembles, to the President of the United States and the members of his Cabinet, certified copies of these resolutions, and also printed copies of the proceedings of this Convention.

Resolved, That we recommend the appointment of a committee which shall be charged with the duty of taking the required measures to organize a railroad company from the most feasible point or points in the eastern part of the State of New York, between Albany and Whitehall, to run in a westerly direction, on the most feasible line, in the general direction of the south-east basin of Lake Ontario, to be called the New England and New York Railway Company.

After the adoption of the report, addresses were delivered by Mr. Poor, D. G. Worcester, Mr. Nelson, and others on the advantages of shorter and more direct lines of railroad. A resolution was adopted providing for the organization of a standing committee to take the necessary financial measures for the successful prosecution of the enterprise.

After the adoption of resolutions that the shortest practical routes should be adopted in making connections between the Atlantic and Pacific States and that while such connections ought to and will be made by way of Chicago, the continuation of the Northern Pacific Railroad to the Straits of Mackinaw, so as to connect with the contemplated road from Portland to the Detroit river, should also be secured, the Convention adjourned *sine die*.

MEMPHIS, EL PASO AND PACIFIC RAILROAD.

We are authorized to state that the American Ship Saint Cloud, laden with railroad iron for the foregoing road, sailed from Antwerp for New Orleans on the 6th instant, that another cargo will follow on the 9th, and still another on the 20th instant.

The first train of cars transporting the rails for this road from Mauberge to Antwerp, was decorated with flowers by the workmen, and a *grand fete* was gotten up in fine style for the occasion.

The Chief Engineer of the road telegraphs from Jefferson, Texas, that eighty miles of earthwork are ready for laying down the rails, which will soon be on the ground.

The contractors, we are informed, expect to have over 2,000 hands at work on the line as far as Paris, in Lamar County, by the 1st of next month, and 500 Chinese laborers besides before 1st of December.

We are satisfied this will be gratifying intelligence to the friends of the 32nd parallel, or Southern Transcontinental, line from Norfolk to San Diego.

LAKE SHORE & MICHIGAN SOUTHERN R.R.

The following statement for the first week of September, like all statements of earnings hereafter, gives the earnings of the lines between Chicago and Buffalo:

Sept. 1 to Sept. 7, 1869.....	\$273,418 37
Sept. 1 to Sept. 7, 1868.....	263,127 73

Increase \$ 10,290 64

Railroad Items.

—The preliminary survey of the Quincy, Missouri & Pacific Railroad to Edina *via* Benbow and Newark by Ch. Eng. Schermerhorn is completed, and the route, says the Quincy *Whig*, is a good one. Commencing at West Quincy, the route is almost an air line to Taylor's five miles; thence up the valley, crossing the river, it reaches the divide between the North Fabius and Grassy Creek, the direction being a little southwest. From Grassy Creek the line runs up School House branch to the divide between Grassy and Troublesome Creek; passing up the valley of the Flint on to Benbow. From Benbow it turns to the northwest, and keeping directly between the South Fabius and Troublesome Creek to Steffen's farm, about five miles east of Newark, it passes into the valley of the South Fabius to Newark, on almost an "air line." From Newark it passes on to within five miles of Edina, where it descends to the valley and crosses the North Fork of the Fabius to Edina. This route passes through splendid farms already under cultivation, and right of way for 36 out of 48 miles have been given to the Co. The whole road to Edina can probably be graded, tied and bridged for \$500,000. The surveyors at the other end of the route, working from the Missouri River east, have reached Marysville, in Nodaway Co. and everything is progressing finely.

—The Pacific Railroads commenced carrying emigrants to California for \$70 from New York or \$42 from Omaha on the 1st of September; and the experiment has proved a gratifying success. The number of emigrants has averaged 100 per day; they are carried in good cars on the Express Freight train, and make the trip in less than ten days. We predict that next season will witness a large increase of business on this train.

By the way; we have seen the receipts of the Union Pacific (east end) for September up to the 24th, and they foot up \$599,630; indicating \$750,000 for the month. As the running expenses are but \$300,000 per month, we submit that those who are so eager to force the Company into bankruptcy have a difficult job on hand, especially since it is selling its lands at the rate of \$200,000 per month.—*N. Y. Tribune*.

—A correspondent of the Detroit *Free Press* writes: "I should say the position of Lansing is that of a spider in the midst of a big web, the threads representing the various railroads that are to pass through, terminate or commence there, only there are more railroads than threads. It was all grand trunk lines, small trunk lines, satchel lines, and any line that had two iron rails laid down as running gear, or was ever to have. When the people are asked to vote upon a question of aid they go right up and do it, believing, perhaps, as many do about the National debt, that the pay day must be met by another generation, and therefore no heed need be given to the present. Lansing has one road completed, seven miles done on another, and some day will have an outlet by way of Battle Creek to the west, with perhaps an air line east.

—The Marysville *Appeal* of Sept. 8th says of the California and Oregon Railroad: A number of Chinese laborers arrived yesterday. We are informed that 200 will arrive during this week, 300 more next week, and 1,000 during the month. The Western Pacific Railroad having been completed, the Chinese laborers employed thereon are being trans-

ferred to the California and Oregon, and the Stockton and Tulare Railroads. The arrival of these Chinese laborers gives assurance that the railroad to Oregon is to be built speedily. We shall also soon be able to determine whether the Company have purchased the Oroville Railroad, or intend to construct the road direct to Chico. The locality of grading will determine this mooted point.

—The Lincoln *Statesman* estimates the work to be done to get the Midland Pacific Railroad ready for the ties to be as follows: From Neb. City to Wilson Creek, 10 miles, 5 days; Wilson Creek to Brick Postoffice, 12 miles, 30 days; Brick Postoffice to McKee's, 12 miles, 40 to 45 days; McKee's to head of Nemaha and Steven's Creek, 11 miles, 40 days; head of Steven's Creek to Purcell's, 8 miles, 30 days; Purcell's to depot in Lincoln, 4 miles, ten days. There are now not less than 1,100 men at work, and about 27 miles of road bed complete. The force will get the earthwork done by the first of November. Many laborers are putting in bridges on the first 20 miles, and quarrymen are getting out stone for culverts for 25 miles of the western end.

—A correspondent from Maysville, Ky., writing to us of the Maysville & Lexington Railroad, says:

"We have a force of graders at work on this road, (Maysville & Lexington, Northern Division,) and by the end of October will have 18 miles nearly ready for track; but by vote of the Directors tracklaying will not be commenced until spring. The work will be vigorously pushed, (especially on the tunnels,) during the fall and winter, and the public may expect regular trains as far as Carlisle, by next September.

"Mr. W. G. Sanborn has charge of the engineering and requires first-rate work from every contractor."—*W. R. R. Gazette*.

—The Columbus and Hocking Valley Railroad Company offers for sale (price 80 and accrued interest) its first mortgage sinking fund seven per cent bonds, due 1897, int. payable April and Oct. This road, connecting with Baltimore and Ohio road, *via* Athens, on Marietta and Cincinnati road, 75 miles, will materially reduce the distance between the West and Baltimore and Washington. It will be a direct route for a large traffic in coal, iron and salt from South-eastern Ohio to Central Ohio and the West. It will cost about \$2,200,000, of which nearly \$1,000,000 is stock taken by responsible parties; is now completed 60 miles, and doing an unexpectedly large traffic.

—Campbell, Gentry & Co., contractors for the construction of the Texas Division of the Memphis, El Paso & Pacific Railroad, have contracted with Koopmanschaap for 1,000 Chinamen. A New York paper says:

"A large force of first-class mechanics, such as carpenters, blacksmiths, bridge-builders, steam engineers, and axemen, has already started from Chicago to Texas to work on this road. These contractors are shipping large quantities of tools, portable saw mills, steam pile-driving engines, and other machinery to the most approved kind now used in the construction of railroads, with a view to pushing this road to a rapid completion."

—At a meeting of the Board of Trade of St. Louis, October 11, General C. W. Blair, of Kansas, presented the project of building a railroad from Lebanon, Laclede county, Mis-

souri, the present terminus of the South-west Pacific Railroad, to Fort Scott, Kansas, which will open a route from St. Louis to South east Kansas and the great stock raising country south and west, one hundred and twelve miles shorter than by any present or projected route. The project met with much favor, and the board adopted resolutions asking the attention of merchants and capitalists to it.

—The St. Louis *Times* says the St. Louis & Ft. Scott Railroad is designed to run from St. Louis through Franklin Co. at Union, thence to Delphi in Gasconade Co., through Osage and Maries to Tusculum in Miller Co., and so on through Camden and Morgan, near the line between Benton and Hickory, to O'ceola in St. Clair Co., thence through Vernon to Fort Scott. It can be built at an average cost of \$25,000 a mile. The enterprise has great merits, and is enlisting the attention not only of people particularly interested on the line, but of capitalists east of the river.

—An application will be made at the next session of Parliament for a charter for the Union Pacific Railway to be constructed from a point on Lake Superior *via* the Red River to a point on the eastern boundary of British Columbia, with power to improve the navigation leading to and from Rainy Lake and Lake of the Woods; also for a charter to run a railway from Pembina *via* Fort Garry to a point on Lake Winnipeg or Saskatchewan River, with power to improve the navigation to Saskatchewan.

—The project of the Vicksburg and Grenada Railroad says the Cairo *Bulletin*, is enlisting the support of the best citizens of Mississippi. At Grenada it will form connection with the Memphis & N. O. road, and through the connections of that road open up very desirable communication with Cairo, and the North and North-east. It traverses the famous Yazoo Valley—one of the most productive regions of the South, and sadly in need of means of communication with the outside world.

—A telegram from San Francisco dated the 2d says: "Engineers from the Memphis & El Paso Railroad have commenced operations at San Diego. Mr. Epperson, President of the Memphis road, ratified the contract with Col. Sedgwick, agent of the San Diego & Gila Railroad Company, for a consolidation of the stock and lands of the two companies, in consideration of \$500,000 to the San Diego road, the stockholders of the latter receiving stock of the consolidated company.

—The Houston & Texas Central Railroad Company, which has extended its road 180 miles from the coast into the interior of Texas to Calvert, has just signed a contract with Mr. Niels P. Larson, for the introduction of 500 European select laborers from Germany and Sweden to work upon that road in its further construction from Calvert to the Red River and Kansas. The Company had also bought iron rails to lay the next fifty miles, from Calvert and Brenham.—*Galveston News*.

—The Directors of the Evansville, Henderson & Nashville Railroad, on the 7th inst., closed a contract with Henry B. Hanson, of New York, and others, to finish the road between Madisonville and Hopkinsville, and leasing the road to said Hanson for a period of seven years, from the 1st of January, 1870. It is understood that Mr. Hanson is backed by the Pennsylvania Central Railroad influence, and that he will complete the Evansville & Nashville road within one year.

—At the annual meeting of the stockholders of the Memphis & Charleston Railroad, held at Huntsville, Ala., the Directors were instructed to lease or purchase, as thought best, the Decherd, Winchester & Fayetteville R.; and in case they succeed in effecting the lease or purchase, then to build a branch road from or near Huntsville, to intersect the same at or near Decherd, in Tennessee, or such other point as may be for the best interests of the Company.

—Memphis, October 7: The Board of Aldermen this afternoon accepted the offer by J. E. Tainter, of New York, of \$160,000 cash for 520 shares of the Little Rock Railroad stock, provided that said parties can give sufficient guarantee to a committee, consisting of Major Leftwitch, R. C. Brinckley and F. H. Cassel, that the road will be completed within nine months, and that it shall never be run contrary to the interests of Memphis.

—The contract for finishing the grade, tying, bridging and laying the iron on the Northern Central Railroad, from Eaton Rapids to Jonesville has been let to Mr. Dobey, of the firm of Dobey & Cable, who have been engaged in building the Grand River Valley Railroad, and active work is soon to begin, and the portion of the road above mentioned is to be finished by the first of July next.

—In the State Engineer's report on N. Y. railroads for 1868, we learn that the total amount received as damages for injuries to passengers, which the various companies were obliged to pay during the year, was \$528,310. The Erie paid \$195,135; Hudson River, \$20,745; New Haven, \$10,937; Harlem, \$7,865; N. Y. C., \$72,944; Buffalo and Erie, \$196,405.

—The Mississippi River Railroad, whose line from Memphis to Covington, 35 miles, was put under contract a few weeks ago, has been located 16 miles further, from Covington to Ripley, and that section is to be put under contract within 20 days. Work is progressing satisfactorily between Memphis and Covington.

—To the inquiry, "what has become of the Colorado Central Railroad? We hear nothing of it of late," the Colorado Transcript replies: "We have got right smart of it graded and tied, but we don't propose to haul the iron upon wagons to lay the track, so wait patiently until the K. P., or D. P. can bring it to us.

—General Canby issued an order at Richmond, October 11 postponing, until after the admission of the State, the appointment of State proxies in railroads. This order will probably leave the railroad organizations as they stand at present until the permanent State Government goes into effect.

—The charter of the St. Joseph & Topeka Railroad, says the Topeka Record, is still alive, and the Co., in conjunction with the St. Jo. & D. C. and H. & St. Jo., promise to build direct from Troy through Grasshopper to Topeka in less than 12 months, if no other road is built upon the line.

—San Francisco, October 7: Receipts of wheat and other grain from the interior continue to be large, and it is stated that not less than 20,000 tons are awaiting shipment along the line of the Western Pacific Railroad, in addition to the vast quantities already sent over the line.

—The Memphis & Charleston Railroad earned \$1,182,759.22 in the year ending June 30, 1869, and its operating expenses were \$785,546.27, for the same time compared with previous year this report shows an increase of \$7,845.09 in gross earnings and \$56,456.68 in net earnings.

—The railway from London to Brighton is to have steel rails over one hundred pounds to the yard, so as to have a head of the width of the tread of the wheels, and to distribute the weight of the rolling stock so as to obtain less than the present weight per wheel, and thus preserve the way.

—Mr. Extine Norton has been elected President of the Paducah & Gulf Railroad; Judge L. S. Trimble, Vice President, and H. L. Jones, Esq., Secretary. The Paducah & Gulf Road is virtually a branch of the Mobile & Ohio, extending from Paducah 57 miles south-west.

—A railroad war is going on in Florida. The Pensacola and Georgia, the Florida, Atlantic and Gulf Central, and the Tallahassee Railroads are in the hands of a Receiver. Charges of fraud are openly made; the courts are busy with hearings.

—The business of the Central Pacific Railroad is larger than ever. The earnings for September were \$597,500, of which the greater part was in coin. It is expected that an additional through express train will be started, to leave this city in the evening.

—The San Francisco Bulletin says the California Pacific Railroad is doing an excellent business, its earnings for August being \$90,000 on the Sacramento branch, and over \$10,000 from the Napa. The Co. are putting the road in the best condition.

—S. Badger has been appointed General Ticket Clerk of the North Carolina Railroad Company, with headquarters at Company Shops, N. C. All communications relative to the passenger business of that road will be addressed to him at that place.

—The surveyors who recently started from Constantine to locate a line to Niles, have completed that work, and have the profile and estimates nearly completed. The line was found much more favorable than had been anticipated.—Constantine Mercury.

—Mr. Koopmanschap has supplied the Central Pacific and other railways with over 30,000 laborers, and he has certificates from the officers of several roads, showing that the Chinamen have given ample satisfaction to their employers.

—The city of Memphis on the 6th inst., sold its stock in the Mississippi & Tennessee Railroad, (Memphis to Grenada), amounting to \$300,000 to A. T. Lacy, agent of the Mississippi River Railroad for \$40,000.

—A vessel has arrived at Pensacola, Fla., with 400 tons railway iron for the Pensacola & Louisville Railroad. The remainder of the iron for its completion to Pollard will arrive about the 1st of December.

—President Amos Woodruff and Superintendent Samuel B. Jones, of the Memphis & Ohio Railroad, have resigned. Col. Nathan Adams has been elected President, and Mr. J. F. Boyd, Superintendent.

—The Erie and Susquehanna Railroad fight has come to an amicable end, the former leasing the Susquehanna property for a period of ninety-nine years, on terms acceptable to the stockholders.

—The Knoxville & Charleston Railroad, which is the Tennessee end of the Blue Ridge Railroad of South Carolina, is under contract, to be completed by the 1st of August, 1871.

—At a meeting of the Directors of the Louisville & Nashville Railroad Company, October 7, H. D. Newcomb was re-elected President and W. Ranney, Secretary.

—It is said the railroad from Charleston to Guyandotte, West Virginia, will be let within twenty days. This is the western section of the Chesapeake & Ohio Railroad.

—The California and Oregon Railroad Co. will immediately commence work at Marysville with a large force of laborers under the direction of J. H. Strobbridge.

—A California railroad company have been organized to construct a road from Woodland to Colusa, Tahoma and Red Bluff, in the Upper Sacramento Valley.

—The Grand Rapids and Indiana Railroad is expected to be finished early in the spring as far as Sturgis, and to Grand Rapids at an early date.

—The affairs of the Virginia & Truckee Railroad have been amicably settled, and the Chinamen have commenced work again.

—A large force of workmen has been put upon the California & Oregon road, both at Marysville & Portland.

—A force of Chinese to work on the Omaha bridge has been secured. The wages paid are \$37.50 a month.

—Naphtha has been successfully used for fuel on a Russian railway.

GALVESTON ROAD.—The Lawrence Journal says that the managers are well selected and entirely alive to the interests and importance of the improvement in their charge. The officers are: James F. Joy, President; William Sturgis, Vice-President; I. S. Killoch, General Superintendent; M. R. Baldwin, Assistant Superintendent; Major W. C. Ransom, Local Treasurer and Cashier; Charles B. Peck, General Freight and Ticket Agent.

The Lawrence Journal says that Col. Vliet has resigned as Chief Engineer. He took charge of the road at a time when confidence in its success was fast losing ground, and leaves it when its success has become an assured fact.

Mr. Chanute, Engineer of the Kansas City Bridge, has been appointed Chief Engineer, and has received orders from Mr. Joy to press work to Garnett as fast as possible consistent with a good road economically built. Major Ransom, the Treasurer, has the means to pay all claims, old or new.

—The Toledo Blade describes a new steam canal boat, designed to run between Celina, Toledo and Cincinnati, and was built especially to Navigate the Grand Reservoir in Mercer County. She has double engines of 36 horse power, and is propelled by a large stern wheel eight feet in diameter, with buckets six feet long by 11 inches deep. Her huge wheel is entirely concealed from view. She has two rudders, one on each side of the wheel, which prevent any side swell whereby the bank may be washed out. Her first trip was made with an excursion party of 275 persons. The working on the Reservoir and in the canal proves her an entire success.

Railroad Earnings.

—The earnings of 10 railroads for the month of September, and for nine months of the year, show the following results:

EARNINGS FROM JANUARY 1 TO SEPTEMBER 30.

	1869.	1868.	Inc.	Dec.
Chicago and Alton.....	\$3,463,286	\$2,233,626	\$224,660	.....
Chicago and North-Western.....	9,969,433	9,713,386	276,047	.....
Chic., R. I. and Pacific.....	3,860,209	3,356,230	474,079	.....
Illinois Central.....	6,134,722	5,591,111	595,611	.....
Marietta and Cin.....	1,017,305	932,471	94,834	.....
Michigan Central.....	3,435,430	3,256,498	178,932	.....
Milwaukee and St. Paul.....	4,819,216	4,454,385	357,831	.....
Ohio and Miss.....	2,634,576	2,163,212	.....	128,637
St. Louis, Alton, and T. H.....	1,450,959	1,381,510	69,459	.....
Toledo, Wab., and Western.....	3,107,050	2,860,589	246,461	.....
Total.....	\$39,775,296	\$36,881,019	2,892,914	128,637

EARNINGS FOR SEPTEMBER.

	1869.	1868.	Inc.	Dec.
Chicago and Alton.....	\$501,258	\$486,196	\$15,062	.....
Chicago and North-Western.....	1,321,139	1,518,483	.....	\$197,344
Chic., R. I. and Pacific.....	579,000	558,386	20,614	.....
Clev. Col. Cin. and Indianapolis.....	327,801	287,451	40,350	.....
Illinois Central.....	915,020	889,990	25,034	.....
Lake Shore and Michigan Southern.....	1,239,725	1,207,496	32,229	.....
Marietta and Cin.....	149,473	121,119	18,054	.....
Michigan Cen. rail.....	473,546	456,974	16,572	.....
Milwaukee and St. Paul.....	724,514	1,024,045	.....	299,531
Ohio and Miss.....	992,403	307,122	.....	14,319
St. Louis, Alton and Terre Haute.....	200,130	196,436	3,674	.....
Toledo, Wabash and Western.....	470,720	450,204	20,517	.....
Total.....	\$7,166,129	\$7,504,277	\$193,046	\$311,194

—The following table shows the earnings of the Kansas Pacific Railway for the week between Sept. 8 and 15, inclusive:

EARNINGS BY FREIGHT.

Individual.....	\$28,650
Government.....	850
Denver Extension.....	7,500

Total Freight.....\$37,000

EARNINGS BY PASSENGERS

Through Agents.....	\$9,300 00
Through Conductors.....	1,400 00
Through Foreign Roads.....	9,600 00
Through United States Troops.....	2,400 00
Through Expresses.....	1,365 62

\$24,065 62

Earnings of Second week.....	\$61,005 62
Earnings of First week.....	56,353 39

\$117,419 01

It will be observed that in these earnings the amount earned from Government transportation is very small, the bulk of the business being from local passengers and freight, a business that must largely increase when the road is completed to Denver. Gen. Palmer is now pushing on the road with vigor, and expects to reach Cheyenne Wells by Christmas.

—The earnings of the Chicago and Northwestern Railway for the fourth week in September were:

1868.....	\$467,159 90
1869.....	\$437,360 97
Dec.....	\$28,798 94.

For the month:

1868.....	\$1,507,479 35
1869.....	\$1,321,139 83
Dec.....	\$186,339 62

—The Illinois Central earnings for the month of September were:

1869.....	\$761,186 45
1868.....	\$740,074 78
Inc.....	\$21,111 67

—The earnings of the Milwaukee and St. Paul Railroad for the fourth week in September were:

1868, \$328,523	1869, \$305,100	Dec. \$23,423
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And for the month:

1868.....	\$1,024,045
1869.....	\$724,514
Dec.....	\$300,531

—The following were the earnings of the Chicago and Alton Railroad for the month of September:

1869.....	\$501,258 91
1868.....	\$486,196 23
Inc.....	\$15,062 68

—The Chicago, Rock Island and Pacific Railroad earned for the fourth week in September,

1869, \$137,700	1868, \$118,555	Inc., \$19,145
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For the month:

1869, \$579,000	1868, \$544,937	Inc., \$34,063
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—The earnings of Michigan Central Railroad for the third week in July were:

1868, \$109,346	1869, \$101,706	Dec. \$7,640
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—The earnings of the North Carolina Railroad for the quarter ending August 31, 1869, were \$122,182 44; and the expenses, \$97,903 17, making the net earnings, \$24,279 27. In the corresponding period of 1868, the earnings were \$110,298 26, the expenses, \$9,302 37, and the net earnings, \$14,995 89. This shows an increase in earnings of 11,884 18, in expenses of \$2,600 80, and in net earnings, \$9,283 38. In the month of August, 1869, \$9,350 44 were expended in the purchase of railroad iron.

—The earnings of the Marietta and Cincinnati Railroad for the nine months ending September 30, 1869, were \$1,017,305, against \$929,003, in the nine months of 1868—an increase of \$88,302.

—The earnings of the North Carolina Railroad Company for the year ending May, 31, 1860, were \$581,897.49; expenses, \$261,233.00. This road extends from Goldsboro to Charlotte, 223 miles.

—The earnings of the Cincinnati, Sandusky and Cleveland Railroad for eleven months ending August 31, 1869, were \$729,533 68; and the expenses, \$376,250, leaving the net earnings, \$353,288 68.

—The Directors of the Chicago, Rock Island and Pacific Railroad have declared a semi-annual dividend of 3½ per cent.

Indian Negotiations—A Branch of the Pacific Railroad.

Luther B. Challis, agt. The Central Branch of the Union Pacific Railroad—Supreme Court, Chambers—Before Justice Clerke—This Company was incorporated in Kansas in 1857 under another name and the plaintiff was its president. In that year they appointed the plaintiff as president and agent to negotiate for the surrender of the lands of the Kickapoo Indians, and subsequently appointed him individually such agent, extending his powers to other matters. In the end a treaty was made with the Indians by the United States to surrender their lands, some 150,000 acres, and these and other lands to the extent of over a million of acres, together with a loan of \$16,000 per mile under the Pacific Railroad policy, were obtained from the United States. Mr. Challis in the first instance brought suit for his services for \$100,000. The suit was referred, and the

parties went before a referee. Before the referee Mr. Challis applied to amend his complaint, so as to increase his claim to over \$580,000. This amendment was finally agreed to by the referee. The defendants meanwhile applied to the Court on petition to send the case to the United States Courts. An order was made to show cause why this should not be done, and a stay of proceedings granted in the mean time. This stay of proceedings was subsequently vacated, and the plaintiff proceeded before the referee, and on Tuesday testimony was taken in the case. The case came up for argument yesterday on the order to show cause. For the defendant it was argued that the corporation was a citizen of Kansas, and the plaintiff a citizen of New York, and that therefore they were entitled to an order sending them to the United States Circuit Court. The plaintiff contended that, as to the act of 1867, the case was not brought within it as the defendants had not filed the petition or affidavit, or bond required by the act. The Court reserved its decision. Knox, Fullerton and Rudd, and Ira Shaffer for plaintiff. Mr. Porter for defendant.

Railroad Patents

For the Week Ending Sept. 28, 1869.

[From American Artisan.]

- 95,196—*Railway-car Journal box*—J. B. Collins, Altoona, Pa.
- 95,199—*Method of constructing Piles for Railroad-rails*—W. E. C. Cox, Reading, Pa.
- 95,227—*Railway-rail Chair*—Gottfried August H. Hertzner, Waterford, Michigan.
- 95,264—*Implement for sighting Railroad Tracks*—George W. Plumb, Milford, Conn.
- 95,283—*Railway-car Seat*—John B. Sutherland, Detroit, Michigan.
- 95,284—*Roll for splitting Railroad rails*—William A. Sweet, Syracuse, New York.
- 95,313—*Lubricator for Journal boxes*—Adolphus Brown and Felix Brown, N. Y. City.
- 95,346—*Education-ventilator for Railroad cars*—M. T. Hitchcock, Springfield, Mass.
- 95,360—*Railway-car Coupling*—John Larimore and J. M. Williams, Connersville, Ind.

DESIGNS.

- 3,670—*Railway-car Ventilator-case or Shell*—M. T. Hitchcock, Springfield, Mass.

Tests of Steel Rails.

The circular of Messrs. John A. Griswold & Co., of Troy, N. Y., thus describes their method of testing steel rails:—

"1st. A test ingot from each five-ton ladleful of liquid steel is hammered into a bar, and tested for malleability and hardness, and especially for toughness, by bending it double cold. In case any test bar falls below the standard established as suitable for rails, all the ingots cast from that ladleful of steel are laid aside for other uses.

"2d. All the ingots, and each rail rolled from them, are stamped with the number of the charge or ladleful. A piece is cut from one rail in each charge, and tested by placing it on iron supports a foot apart, and dropping a weight of five tons upon the middle of it from a height proportioned to the pattern of rail. A blow equivalent to a ton weight falling 10 to 15 feet is considered a severe test. We use a five-ton weight falling from a less height, believing that it more nearly represents

in kind (although it of course exaggerates in severity) the test of actual service in the track.

"In case a test rail does not stand the blow deemed proper and agreed upon, the whole of the rails made from that charge or ladleful of steel are marked No. 2, and sold for use in sidings, where their possible breaking would do no great harm, and where their greater hardness and resistance to wear would be specially valuable.

"In addition to this double test, the rails are rigidly inspected for surface imperfections.

"We believe that these tests render it practically impossible for us to send our rails of inferior quality.

"We further invite railway companies to send inspectors to our works to witness the tests mentioned, and other tests and inspections agreed upon."

A CARD

A Clergyman, while residing in South America as a missionary, discovered a safe and simple remedy for the cure of Nervous Weakness, Early Decay, Diseases of the Urinary and Seminal Organs, and the whole train of disorders brought on by baneful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope to any one who needs it, *Free of Charge*.

Address,

JOSEPH T. INMAN,

Station D, Bible House,

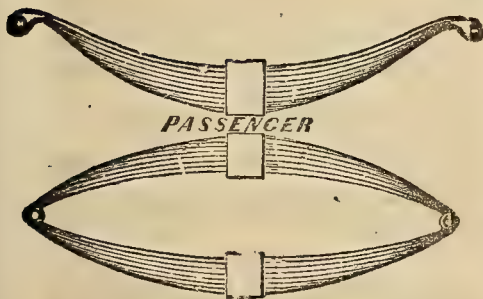
NEW YORK CITY.

7-10-9, 13.

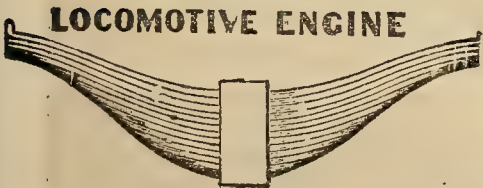
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THE Subscriber offers to Railroad Superintendents, Locomotive and Car Builders, a superior quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his shops in Philadelphia. Employing only the most experienced workmen and best material, he pledges himself to furnish a Spring of the greatest elastic quality, and one which shall be uniformly reliable in its carrying weight. All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.
Shops—Seventeenth and Coates St. PHIL.

John A. Griswold & Co.

TROY, N. Y.

J. A. Griswold, E. Corning, E. Cording, Jr.
Chester Griswold.

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RENSSELAER IRON WORKS,

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WHEELS FITTED

Hammered or Rolled Axles, in the best manner and the shortest notice, and on the most reasonable terms

ERIE RAILWAY.

1400 MILES under 860 MILES without
One Management. Change of Coaches.

BROAD GAUGE, DOUBLE TRACK ROUTE

FOR—
NEW YORK, BOSTON,

Providence, Albany,
PITTSBURG, HARRISBURG

Philadelphia, Baltimore,

And Principal Points in
NEW YORK, NEW ENGLAND

—AND—
Pennsylvania.

This Railway extends from
CINCINNATI to NEW YORK, - 860 Miles.
CLEVELAND to NEW YORK, - 625 Miles.
DUNKIRK to NEW YORK, - 460 Miles.
BUFFALO to NEW YORK, - 423 Miles.
ROCHESTER to NEW YORK, - 385 Miles

AND IS FROM

22 to 27 MILES the SHORTER ROUTE.

TWO EXPRESS TRAINS DAILY.

Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS,

(Sundays excepted.) Arrive Dayton 9.10 A. M.; Urbana, 10.28 A. M.; Galion, 1.00 P. M.; Mansfield, 1.42 P. M.; West Salem, 2.49 P. M. (Dine). (Sleeping Coaches through to New York); Akron, 4.25 P. M.; Ravenna, 5.10 P. M.; Meadville, 7.55 P. M. (Supper); Susquehanna, 7.55 A. M. (Breakfast); Turner's, 1.22 P. M. (Dine); New York, 3.00 P. M. Connects at Ravenna with Cleveland & Pittsburg Railroad for Hudson and Cleveland; at Elmira for Williamsport and the South; at Binghamton for Cooperstown, Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.25 A. M.; Galion, 4.00 A. M.; Mansfield, 4.44 A. M.; West Salem, 5.55 A. M. (Bkfst); Akron, 7.33 A. M.; Ravenna, 8.20 A. M.; Meadville, 11.16 A. M. (Dine); Hornellsville, 6.19 P. M. (Supper); New York, 6.30 A. M. Connects at Mansfield with Pittsburg, Ft. Wayne & Chicago Railway for Pittsburg, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities.

New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through **860 Miles without Change.**

Boston and New England Passengers, with their Baggage, are transferred FREE OF CHARGE in New York.

The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

Baggage Check'd Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY,

Which can be obtained at the Company's Offices in Cincinnati, 80 West Fourth Street, 115 Vine St., 4 Burnet H. use, and foot of Broadway. (Spencer House Block) and at all principal Ticket Offices in the South and South west.

L. D. RUCKER,
General Sup't.

WM. R. BARR,
Gen'l Pass'r Ag't.

GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

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BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,

WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**

From Cincinnati to **Baltimore** and but ONE CHANGE to
 or Columbus to **Baltimore** and but ONE CHANGE to
 Philadelphia and New York.

Ask for TICKETS and
 BAGGAGE CHECKS via **Baltimore & Ohio R.R.**

J. L. WILSON, Master of Transportation.
 L. M. COLE, General Ticket Agent.
 G. B. GIBSON, General Western Passenger Agent.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City	7 00 A. M.	9 30 P. M.
Toledo & Detroit	7 00 A. M.	9 30 P. M.
Dayton & Sandusky Mail	7 00 A. M.	5 25 P. M.
Richmond & Chicago	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada	6 00 P. M.	10 30 A. M.
Hamilton Accommodation		6 45 A. M.
Richmond & Chicago	7 00 P. M.	9 20 P. M.
Hamilton Accommodation	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at
 the old office, south-east corner of Broadway and Front; Bar-
 net House Office, corner Vine and Baker streets, and at the
 respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.

Omnibuses call for passengers.

JANUARY 5th, 1868.**Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph
 Jefferson City, and all points on the Lower Mis-
 sissippi River, and on the the Illinois
 Central Railroad.

RAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave " "	12 20 p.m.	2 10 "	
Arrive VINCENNES	5 15 "	6 35 "	
Leave " "	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave " "	9 45 "	10 40 "	6 30 a.m.
Arrive SANDOVAL	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O'H.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine
 street, Corner Front and Broadway; and at Depot, Foot
 Mill Street.

C. E. FOLLET Gen. Passenger Agent
 J. W. CONLOGUE
 General Superintendent

Best Route to St. Louis and Chicago**INDIANAPOLIS,**

CINCINNATI

-AND-

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,

CAIRO,

CHICAGO,

Memphis, New Orleans, Springfield, Quincy
 Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West,
 North west and South-west.

ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS
 WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail	6 30 am	12 20 am
St. Louis and Springfield Express	3 35 pm	8 20 am
St. Louis and Springfield Express	10 35 pm	3 30 pm
Lawrenceburg Accommodation	10 00 am	2 35 pm
Lawrenceburg Accommodation	4 15 pm	8 05 am

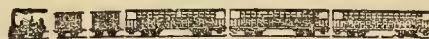
*The 10.35 p.m. train will leave Sundays, but not on Sat-
 urdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail	7 00 am	10 00 am
Chicago Express	6 30 pm	9 40 pm
Harrison Accommodation	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnet House
 Office, corner of Third and Vine; River Office, corner of
 Walnut Street and River; and at Depot, corner of Plum
 and Pearl Streets. The splendid Passenger Depot of the
 I. & O. Railroad is about a mile nearer the business center
 of the city than the Depot of any other railroad, and with-
 in a few squares of the Postoffice and principal hotels and
 Steamboat landings.

J. F. RICHARDSON, Superintendent.
 A. E. CLARK, General Ticket Agent.

Philadelphia, Wilmington & Baltimore**RAILROAD!****FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
 Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.
 Leave Baltimore for North and West 7.35 A. M.; 9.20
 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
 P. M. (Express)

SUNDAY TRAINS.—Leave Philadelphia for Baltimore
 at Washington at 4.15 A. M., and 11.00 P. M. Leave at
 time for Philadelphia at 8.25 P. M.
 Leave Philadelphia for Wilmington at 11.30 P. M. Leave
 Wilmington for Philadelphia at 8.30 P. M.

The Old And Reliable Route.**Through to Pittsburg without Change.**

The PITTSBURG, FORT WAYNE & CHICAGO RAIL-
 ROAD, in connection with the Cincinnati, Hamilton &
 Dayton, and Little Miami Railroads, still continue to transport
 produce and merchandise between Cincinnati and
 Pittsburg, Philadelphia, Baltimore, New York or Boston,
 and all Eastern points with the greatest promptitude and
 dispatch.

For Rates, Bills of Lading, or any information desired,
 shippers will please apply to

H. W. BROWN & CO.,
 No. 27 West Third Street, Cincinnati.

W. P. SHINN, General Freight Agent.
 Pittsburg, Pa.

LOUISVILLE & CINCINNATI**SHORT-LINE RAILROAD.****Time only 5 hours**

Fare Only \$3.50—Transfer from Hotel or
 Residence to Depot, in Covington, Free.

THE SHORTEST ALL-RAIL ROUTE TO
 Louisville, Nashville, Memphis, New
 Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail	7.00 A. M.	2.30 P. M.
Evening Express	5.45 P. M.	9.00 P. M.
Walton Accommodation	4.00 P. M.	9.30 A. M.

The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
 the Walton Accommodation, offer great inducements to the
 citizens of Cincinnati and Covington who wish to pur-
 chase country residences or small farms for gardening.
 This train leaves late in the afternoon, and arrives early
 next morning, giving all day to attend to business. For
 further information as to routes, low fare, &c., please apply
 at No. 1 Burnet House, or Depot, Covington, Ky.

SAM'L GILL, Gen'l Sup't. Louisville.

CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Lib-
 erty st., connects at Hampton Junction with the Dela-
 ware, Lackawanna, and Western Railroad, and at Easton
 with the Lehigh Valley Railroad and its connections,
 forming a direct line to Pittsburg and the West, without
 change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago,
 Cincinnati, St. Louis, etc., with but one change of cars.
 Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as
 follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk,
 Williamsport, Wilkesbarre, Mahoney City, Tuckahoe,
 &c.
 7:15 a. m.—For Somerville.
 8:30 a. m.—For Flemington, Junction, Stroudsburg,
 Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.
 12 m.—For Flemington, Easton, Allentown, Mauch
 Chunk, Wilkesbarre, Reading, Columbia, Lancaster,
 Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.
 3:30 p. m.—For Easton, Allentown, Mauch Chunk
 and Belvidere.
 4:30 p. m.—For Somerville.
 5:25 p. m.—For Somerville and Flemington.
 6 p. m.—For Easton and intermediate stations.
 7 p. m.—For Somerville.
 7:20 p. m.—EMIGRANT—Stopping only at the principal
 stations.
 9:00 p. m.—For Plainfield.
 11:50 p. m.—For Plainfield, on Wednesdays and
 Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays)
 for Easton, Allentown, Harrisburg, and the West without
 change of cars to Cincinnati or Chicago, and but one
 change to St. Louis. Connects at Harrisburg for Erie and
 the Oil Regions. Connects at Junction for Stroudsburg,
 Water Gap, Scranton, &c. Connects at Phillipsburg for
 Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Satur-
 days) for Easton, Bethlehem, Allentown, Reading, Harris-
 burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars
 to Pittsburg and Chicago. Connects at Junction with
 Delaware, Lackawanna and Western Railroad for all sta-
 tions to Scranton. This train will be run to Easton on
 Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,
 Allentown, Reading, Harrisburg, Pittsburg, and the West
 —connects at Harrisburg with train for Williamsport, Erie,
 &c.

Sleeping cars through from Jersey City to Pittsburg
 every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15
 8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:0, 2:0
 3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25,
 7:0, 7:2, 7:40, 8:0, 9:00, 9:40 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the
 Central Railroad of New Jersey, foot of Liberty st., N. Y.;
 at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at
 No. 10 Greenwich st., and at the principal hotels.

R. E. RICKER, Superintendent.
 H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - } Editors.
T. WRIGHTSON, - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, -THURSDAY, OCTOBER 21, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
" " per month.....	5 00
" " six months.....	15 00
" " per annum.....	25 00
" column, single insertion.....	7 00
" " per month.....	14 00
" " six months.....	55 00
" " per annum.....	110 00
" page, single insertion.....	25 00
" " per month.....	40 00
" " six months.....	135 00
" " per annum.....	240 00

Cards not exceeding four lines, \$7 00 per annum.

WRIGHTSON & CO., Prop'r's.

GROWTH OF CINCINNATI.

In Reference to its Commerce and Inter-Communications.

In our last article on the Southern Railway we noticed several reasons why the surveys on that road should be pressed, and nothing omitted which could keep up the public interest, or secure the great end in view. We have heard some strange rumors, that certain persons did not want the road made, and that others were indifferent. Now, if any of the leading men who have been for the Southern road think the people of this city are not in earnest, they are very much mistaken. When a community vote by a majority of more than five to one for a certain enterprise, they mean it. They are in earnest. The individual interests, or prejudices, are not to be taken into view, and will not be. There is and ought to be only one policy pursued, and that is, to go forward with the work as energetically as possible. We hope, therefore, there can be no doubt on this subject; and now, while there is time to do it, there will be the most thorough surveys of all the routes in Kentucky, and that the moment authority is obtained, the Trustees will immediately put the work under construction. But this is not what we are now to consider, but rather, certain facts, in the growth of Cincinnati, which make the early construction of this work imperative. We saw the other day in the daily papers, that the Nashville road was literally choked with merchandise going South. This must be the case, and at the same time, the growth of Cincinnati manufactures is so great, that it will soon be impossible to get transportation South, except by the old round about way of the rivers. Let us now present four lines of figures, which we have printed before,

but which everybody ought to see and remember, if they would have a comprehensive idea of what the growth and needs of Cincinnati are:

In 1826, the value of manufactured products was.....	\$ 1,850,000
In 1840,	17,000,000
In 1850,	50,000,000
In 1869,	110,000,000

This tells the story in a very brief space, and the growth thus begun must continue. Mr. Greeley, writing in the *Tribune* some years since, said very justly, that "it requires no keenness of observation to perceive that Cincinnati is destined to become the focus and mart for the grandest circle of manufacturing thrift on this continent; this is true, and the sagacity of Mr. Greeley foresaw that all the elements combined in this place was to produce such a result. But the real growth and power of Cincinnati are not and perhaps never will be felt as they are in Philadelphia, Baltimore and Chicago, and other places, on account of a division in the country, as we may call it, for Cincinnati is really divided by law and statistics. On the opposite shore of Kentucky, in Newport, Covington, Dayton, etc., are at least \$50,000 people with numerous factories, etc., etc. So the corporation line runs within Cincinnati, and leaves 50,000 other people out of the city, by law, but as truly in it as any part of the city. Taking what really is Cincinnati, and there are really 300,000 people in this city. In every part of it, factories, shops, engine establishments, etc., may be seen; and immense bodies of people are everywhere at work. The results of this productive industry may be seen in every kind of machinery, instruments, tools and manufactured food. We see it amounts to *one hundred and ten millions in value annually*.

But, if there be this immense amount of manufactures, there must also be markets, and there are markets, or there would not be this great product in manufactures. This market is chiefly in the South and South-west, and as we have often demonstrated, might be increased four-fold by proper communications, so direct, as to cheapen the transportation, both in time and money. This is exactly what Cincinnati wants. She wants her communications on the whole Southern semi-circle both more numerous and more direct than they are. One step is taken towards this, by getting the law and the vote for the Southern road; but, as we said in our last, and say now, this work is absolutely endangered by the little active interest taken in it.

Now, let us look into the radial communications of Cincinnati, especially in regard to the South. The centrality of Cincinnati is its leading feature in regard to commerce. Let us look at some of the consequences, when carried to their legitimate results:

1. From Maumee Bay to Knoxville on the Tennessee river, is about 400 miles on a direct line, and Cincinnati is almost exactly on that

line, and midway. So that of the whole immense country between the lakes and Tennessee river, Cincinnati is the central point. Now, the value of such a situation, commercially, consists mainly in the fact, that the products and the merchandise of the country can be carried from one end of the respective radii to the other, through the center, so that the central point can thus gain a profit by that transmission. This is exactly the advantage which Cincinnati has, geographically; but which she can not have if the communications are only on one side. If, therefore, Cincinnati has not Southern communications, it can not get much of the advantage of what it might have from those on the North. If the Northern radius (railroad) runs to Cincinnati and there stops, it can not have anything like the business it would have, if the products of the North could pass on towards the South, so that the Southern radius will be of service, not merely on its own side, but to the Northern side also.

2. Take the distance from Cincinnati to Nashville as a radius, and Cincinnati as the center, and the radius will include Ohio, Indiana, Kentucky and Western Pennsylvania; a country embracing 150,000 square miles, and 7,000,000 of people. Now, add to this, by the Southern Railway, Tennessee, Georgia, and half of the Carolinas and Alabama, and we have 180,000 square miles, and 4,000,000 of people. We perceive then, that there is South of the Ohio over 200,000 square miles and 5,000,000 of people, to which the radii from the North of the Ohio ought to extend, and it is very evident that without such extension, the radii of the North half can not be of their true legitimate value. This is a consideration we think has not been sufficiently taken into view. We mention it here, to recall the fact of the centrality of Cincinnati, which is one of its chief advantages, and which can not be made available, except by extending its communications South.

We may add another thing, that the railroads in Indiana, extending to its iron region ought to be encouraged, for the iron ore there is very good.

The manufactures of metal in Cincinnati now reach the immense value of *twenty millions of dollars annually*, of which the products are largely exported South and West. This is a department in which Cincinnati has advantages of almost any place in the country. The same is true of the manufactures of wood, such as furniture, etc. The value of these products is also very great, and a large part go to the South. There is one gentleman in Cincinnati who makes and exports houses. This seems very improbable, but it is very true. There is a very large factory, whose sole business is to make houses; that is, frame houses, of which each part is made separate, so that the whole may be completely framed together and exported. Many of these houses

go West, but many also go down the Mississippi river.

We had intended to take a view here of the commerce proper of Cincinnati, but must leave that to a future time. It is enough to say, that the internal commerce carried on through Cincinnati has increased immensely, and the volume of exports and imports is continually increasing; and there is no evidence that the part which goes South is diminishing. But the point with Cincinnati is not to keep what it has got of Southern trade, but to increase it with the growth of the country. This ought to be, and will be, if Cincinnati is to keep its supremacy among the cities of the West. It is for this reason that there should be a continual and active interest in the Southern road. To suppose that a law and a vote will make that road is a very great mistake. The hard work is yet to come, in getting the authority, and making the proper location in Kentucky; in raising the money, and constructing the road properly and quickly. The friends of the road must be wide awake.

At Our Post Again.

For the past ten weeks sickness has detained us at our home. During this time we have been oblivious to the outside world, and had no thoughts to bestow on business, or the RECORD. With restored and continued health, however, we trust that our pen will again do yeoman's service in the cause of material progress, and make the RECORD what it has always endeavored to be, not only a record of the past, but the advocate of new and meritorious works of internal improvement.

T. W.

THE PACIFIC RAILROAD COMMISSION have returned, and we understand are now engaged preparing their report. The gentlemen composing the commission are all practical, common sense men of undoubted integrity, and we have no doubt will make a fair and honest report. Their duties have been performed with great care, and the examinations made in detail. We trust the roads will have nothing to fear from the result of their investigation, and hope for the good of the country the report will be favorable.

MANUAL OF THE RAILROADS OF THE UNITED STATES, 1869-70.—We are under obligations to Messrs. H. V. and H. W. Poor, of New York City, for a copy of this valuable compendium of facts and figures. The late editor of the *Am. R. R. Journal* has brought his thorough knowledge of our railway system to bear on the work, which is one of great interest to those who have to do with railways, and the additional pages on the "Public Debt of the United States, and the Debts and Liabilities of the several States," add a general value to the volume.

Ohio & Mississippi Railroad.

The recent election of officers to manage the Ohio and Mississippi Railroad ought to have been made an occasion for the expression of the sentiments of the stockholders, especially those located here and on the line of the road, in reference to a change of gauge. The departure from the determination to make the change was caused by a trick of the "Erie party." Whether obligations were then assumed which prevent a renewal of the proposition to change the gauge, we are not advised; but it is a matter well worthy the investigation of Cincinnatians. There is another matter which it is well worth while for our citizens to consider, and that is whether there has not been manifested a lack of friendliness toward it, which it merits. It has, under its recent management, been more attentive than it formerly was to the cultivation of such a trade as would benefit this place. It has been steadily but laboriously worked up to a first-class condition, and is admirably equipped for its part in the great competition with its Northern rivals in the compact system of their management. There are to be secured by it most valuable new tributaries to the trade of this city. Among the very important will be the extension of a road from a point near Shoals, Indiana, to Rockport, on the Ohio River, whence by the addition of a small link to Owensboro, Kentucky, connection may be secured with West Kentucky and Tennessee.

If a Southern Pacific Railroad is constructed, say on either the 32d or 35th degree of latitude, there is but little doubt that the Ohio and Mississippi Railway will form a most important part of the line to the Atlantic. At any rate, whatever may be its natural destiny, it should be made a point with people here that it shall be known and operated as a Cincinnati road.

In the recent election the management of the road has changed but little. The more noticeable changes were those of the advancement of A. H. Lewis, lately General Superintendent, to the position of Vice President. The appointment of Joseph L. Griswold to the position of Superintendent was made on the basis of his proven qualification as Superintendent of the Western Division—Vincennes to St. Louis. Though under thirty years of age, he is said to have developed rare genius for his position.

If Cincinnatians can not secure the control of the future destinies of the road, they should at least see that it is not allowed to be permanently and exclusively run in the interest of other places.

The above very sensible remarks of the *Commercial*, like many other like paragraphs, are but thrown away on the ears of Cincinnatians. Mr. A is occupied with his grocery; Mr. B with his dry goods; Mr. C with his pork, and Mr. D with his machine shop, while Mr. E has a comfortable living from his real estate, and none of them have the time to attend to these outside matters. Besides if it is really a good thing that Cincinnatians should control their own avenues of trade, why somebody will attend to it, and A, B, C, D and E will get the benefit of it, and that will be just as well as if they had done it themselves. In addition to that, Mr. *Commercial*, there are Messrs. F, G, H and J who did once undertake to aid this enterprise in its

early history, who have very sad recollections of it. Of course they will not be expected to touch it again; although they know very well if Messrs. A, B, C, D and E had done as well as they did at that time, the disasters that overtook the road would not have occurred. Cincinnatians do not take any money interest in Cincinnati railroads, unless it is some little one horse affair that runs around in the neighborhood, and that they can control.

The proposed branch from Shoals, Ind., to Rockport, with the extension of the line through South-western Kentucky, would bring a new and valuable trade to this city, and make a first-class route to Nashville, Memphis and the South-west; indeed, but some ten or twenty miles longer than by the present Short Line through Louisville.

That it would be advantageous to the road to change the gauge, we have no doubt; that, however, is a question of dollars and cents with the stockholders, and is none of our business, only so far as the increase of traffic on the road would enable the management to afford to discriminate in favor of Cincinnati trade.

The Ohio & Mississippi Railroad is one of the most important lines of road to Cincinnati, now in operation, and merits much more fostering care than it has hitherto received.

East Tennessee and Georgia Railroad.

The report for the year ending June 30, 1869, shows the gross earnings and expenses as follows:

EARNINGS.	
From Freight.....	\$271,587 97
" Express	10,725 04
" Passengers.....	208,949 16
" Transportation, U. S.	511 89
" Mail	13,670 02
" Other sources	10,550 48
Total	\$515,994 56
EXPENSES.	
For Transportation.....	\$59,813 74
" Motive Power	82,839 13
" Maintenance of way	90,698 35
" Maintenance of cars.....	53,846 55
" General expenses.....	15,979 02
" Extraordinary expenses.....	30,250 06
" Taxes.....	5,534 51
" Depot buildings.....	3,379 77
Total	\$347,013 13

Which, deducted from the gross earnings as above, would leave \$168,981.43 net to pay interest to the State of Tennessee and on second mortgage bonds, the interest on which amounts to \$141,460.64. This, taken from the net earnings as above, would leave a balance of \$27,520.89; of this sum, \$14,181.91 has been retained during the year by the Government and credited upon the bond, which leaves on hand for the year's operations \$13,338.98. By comparing these figures with those of the annual report of the year ending June 30, 1868, it will be seen that while the earnings of the present year exceed that of the previous year \$3,080.05, that the expenses have been reduced very greatly. Including extraordinary expenses

and all, it has taken 67½ per cent of the gross earnings to operate the road.

The President remarks: "Since the last annual meeting of this company we have succeeded in effecting a settlement with the State of Tennessee, of our interest and sinking fund account, which has been the cause of so much annoyance and trouble since the war; because, from the annual reports of the Comptroller of the State of Tennessee, made to the Legislature, it was made to appear that we were largely in arrears in our semi-annual payments of interest, which the effect to damage our credit, from the fact that outside parties did not know but a Receiver might be appointed to take charge of the road, for non-payment of interest due to the State. This apparent difference of the accounts of the Comptroller and the company existed, not from a want on the part of the officers of the State to do us damage, but from honest convictions on their part that they had no right to credit the company with certain payments that had been made after the 1st of January, 1861. But, under a recent decision of the Supreme Court of the State, all payments made to legally authorized parties upon all contracts were, legal and valid, when they were received without protest. And under this decision of the court a full and complete settlement was made; this company having made these payments to the Bank of Tennessee, the fiscal agent of the State, before the removal of the bank from the State; which settlement, as made, is in accordance with our books and is satisfactory to the State and to the officers of this company.

"The interest due to the State of Tennessee, as well as on our second mortgage bonds, was paid in full on the 1st day of July last."

ABSTRACT OF THE GENERAL CONDITION OF THE
EAST TENNESSEE AND GEORGIA RAILROAD COM-
PANY, ON THE 30TH DAY OF JUNE, 1869

Capital Stock.....	\$1,290,067 25
State Scrip.....	29,929 00
State Loan—Old.....	1,037,000 00
" New.....	430,277 50
Company Bonds—Old.....	640,000 00
" New.....	136,400 00
Endorsed Bonds.....	115,000 00
Coupons Company Bonds.....	7,050 00
" Endorsed.....	5,700 00
Bills payable.....	1,812 49
United States Income Tax.....	1,454 40
Pay Rolls.....	16,236 40
Due to Agents.....	324 46
" Other Roads.....	19,773 18
" Individuals.....	1,420 84
Interest due 1st July on Com- pany and Endorsed Bonds....	26,712 00
	<hr/>
One State Bond.....	\$3,759,157 52
One Endorsed Bond.....	1,000 00
Four State Coupons.....	120 00
Telegraph Stock.....	750 00
Express Company Stock.....	5,000 00
Post Office Department.....	8,062 97
U. S. Transportation Account	90,134 00
Southern Express Co.....	704 06
Holston Salt & Plaster Co.....	1,184 00
Due from Agents.....	2,953 09
" Other Roads.....	31,843 87
Funds on hand to pay Interest, Purchase Iron, Rails, &c.....	94,222 66
Funds in Augusta, Georgia, to pay interest.....	3,145 96
Cash.....	23,261 68
Road and fixtures.....	1,495,764 34
	<hr/>
	\$3,759,157 52

Letter from Gen. Fremont.

The Paris Temps of Sept. 20, publishes the following letter from Gen. Fremont:

PARIS, Sept. 18.—In order to reply to the false allegations directed against the Memphis, El Paso and Pacific Railroad Company, by parties interested in discrediting it, the subscriber, as President of the Committee of Management declares:

1. That the concession of the line has been regularly and definitely accorded to the company by the following laws of the Texan Legislature, namely, those of Feb. 4, 1856, Feb. 5, 1856, Feb. 10, 1858, March 20, 1861, Jan. 11, 1862, March 30, 1866, Nov. 13, 1866.

2. That all privileges, franchise and property accorded to the company remain in full force and require no new sanction, not even that of the United States Congress.

3. That the mortgage forming the guarantee of the bonds issued, is a first mortgage, perfectly regular, and of such nature as to legally secure the bondholders.

4. That the building of the road to Texas is being carried on with all possible activity, and that the contracts concluded by the Company secure the completion of the earthwork by the 1st of next March, to the extent of 150 miles.

5. That large orders for rails, locomotives, and material have been given in France to M. Kœchlin of Mulhouse, and to the Societe de Vevin Aulnoy of Manbeuge, and the amount of these orders has been deposited in banks of the first standing, and that even, at this moment, a vessel is bound for Antwerp to convey the first cargo of rails.

6. That Gen. Hunter and M. Sedgwick, the former being the manager, and the latter engineer of the Californian section of the line, are at San Diego to commence the building of that section.

7. That the Company owns in addition to the lands mortgaged the following: A—1,023 acres at the port of Norfolk on the Atlantic side. B—9,000 acres at the port of San Diego on the Pacific side. C—600,000 acres in Texas independently, we repeat, of the lands placed under mortgage.

8. That the Company have acquired, by purchase or by the consolidation of other lines and the following concessions which correspond with the principal line, and shall henceforth form an integral part, namely: A—The concession of the San Diego and Gila line in California, 160 miles long. B—The concession of the Arizona line, about 500 miles long. C—The Memphis and Little Rock Line, the greater part of which is in operation.

9. That the whole of these properties gives to the Company's bondholders a general security, forming in some part the complement of the guarantees in which they are specially interested.

The bondholders may be assured that the Directors of the Company, aware of their duties, will employ all their energies to defend the interests of the Company and its bondholders. I hope that these declarations, as categorical as they are sincere, will put an end to the persistent calumnies of which the Memphis, El Paso and Pacific Railroad is the object.

J. C. FREMONT,
President of the Committee of Management.

FORT WAYNE, MUNCIE & CINCINNATI RAILROAD.—A meeting in the interest of this route was held at the Board of Trade Rooms in this city, on the 19th, too late for extended notice in this issue. We will publish the proceedings in full next week.

How to Make Better Railways.

The start must be a fair and honest one. The roads must be built for cash and at cash prices. Neither the president or directors or engineers must be allowed to have any interest in it with the contractors, except to see that they do their work thoroughly and well. When the surveys are done, the grades and curves so established that the work of operation can be done cheaply and safely, the drainage of the road bed, and its proper construction, must be looked after. There must be wide and roomy culverts, well sunken ditches, safe embankments, flat slopes, and everything else looking to getting rid of water easily. Then the superstructure must have an equalized bearing surface, and plenty of it outside of the rails. When we come to the rails, a writer in the New York Daily Times has a few words to say, which are just in season:—"Early in 1868, the Reading Railway Company commenced rolling their own rails by an improved method, and some of them have already been down long enough, under the immense coal traffic of that road, to vindicate this policy. For instance, out of 9,000 tons of home made rails, which had carried a certain traffic during the last nine months of 1868, only five tons, or one in 1,800 tons, had worn out. During the same time, and under the same traffic, out of 2,000 tons of rails made by the old process at an outside mill of good repute, about 200 tons, or one in ten, had been worn out and removed, and the indications are that the remaining 1,800 tons will be unfit for use at the end of this year. At a point in the road near Reading, where shifting from connecting lines is added to the regular tonnage, the life of rails made by the various old processes is from three to four months. Some rails only last six weeks. At this point, the rails made by the new process have already been down sixteen months, and are still sound, although much worn. The trouble with ordinary iron rails, as we have explained on another occasion, is that they go to pieces before they get a chance to wear out.

The best iron rails cost perhaps twelve to fifteen dollars per ton more than the poorest, but if they last twice or thrice as long, no railway manager will pretend to doubt their economy. The trouble is, that some railway managers, and especially the builders of new roads, never consider the question of durability. Nor is there any secret or difficulty in the manufacture of good iron rails. One process, which makers are sometimes forced into by low prices, is to cut up old rails, pile them together, and roll them into slabs to form the head of a new rail. The remainder of the pile from which the new rail is rolled is simply old rails cut up and laid together. Not a particle of new iron, which would greatly help the welding, is added, for that costs some six or seven dollars per ton more than old rails; and not half work enough is done on the loose bundle of iron forming the rail pile to compact it. Nothing is more certain than that such rails will go to pieces in the welds after short service. The method adopted by Mr. Cox, of the Reading Railway Company's mill—and the same or a better one would be gladly adopted by private makers if companies would pay for it—is as follows: Some seventy per cent. of old rails and thirty per cent. of new iron (puddle bar) are laid in a pile and rolled into slabs an inch thick. Seven thicknesses of these slabs are again piled, re-heated and rolled into a head-piece two inches thick, which forms the

top of the rail pile. The remainder of the pile is made up of several thicknesses of the slabs before mentioned, the whole being heated and rolled into a rail. In this way the body of the rail is twice compacted by heat and pressure, and the head, that receives the direct action of the car wheels, is three times subjected to this condensing operation.

A rail thus made, instead of being a bundle of heterogeneous laminae stuck together by cinder, and ready to split apart under the hammering of wheels, is a dense, compact, and comparatively homogeneous mass, which offers resistance not only to abnormal splintering, but to normal abrasion and wear, just in proportion to the work put upon it in the rolling mill. It is the perfect homogeneity of steel that enables it to outlast the best iron, even more remarkably than the best iron outlasts the poorest; and the nearer iron rails approach in structure to steel rails, the longer will they last, and the less will they cost in the end. It is time that this pitiful talk about the impossibility of getting good rails was stopped. There is no doubt that some rail-makers 'scamp' their work—a peculiarity of the period not confined to rail-making—but the worst of them can and will make good rails, if railway managers will give them a chance, and substitute suitable tests and inspections.—*Am. Railway Times.*

Honduras Railroad.

This important enterprise, which will reduce the time by sea between San Francisco and New York to fourteen days, originated some years since with Mr. Squier, who first gave it shape and consistency while he was United States Minister to Central America. It hung fire for a long time between American, French and English capitalists, who in turn had the trans-continental railroad route surveyed at great expense, and always with the same result. Each time war or Panama Railroad interests or untoward events retarded operations, until the great house of Bishopsheim & Goldschmidt, of London, in connection with other European capitalists, took the affair in hand, and it is now only a question of time, say another year, for the locomotive to be running from ocean to ocean. Shiploads of iron and material from England have been landed at both termini, and thousands of laborers, native and foreign, are at work along the line. The distance across is about 240 miles, there being no serious impediments of mountains or rivers on the route. The harbors at both ends are excellent. Port Cortes (or Caballos), on the Atlantic side, is safe, deep and well protected; while the great Bay of Foneseca, on the Pacific side, is one of the finest harbors in the world, being, in fact, a "constellation of harbors," land-locked, deep, capacious and with accommodations for unlimited shipping.

By this route the distance between New York and San Francisco is shortened 1,200 miles—a fact to which no ocean traveler can close his eyes, the moment that regular lines of steamships commence running; and passengers and freight now going by Panama will naturally seek the shorter route. The time between San Francisco and New Orleans, via Honduras, will be reduced to about eleven days, and although no steamship route can be expected to compete with our continental railroads, still there must necessarily be much freight and many passengers passing by the Honduras Railroad, especially those going to or from the Southern States. The princi-

pal advantage which the Honduras route has over that of Tehautepec consists in its fine harbors, of which the latter is entirely destitute, while the distance between New York and San Francisco is about the same.—*Alta Californian.*

Railroad Earnings.

—The Central Pacific Railroad bids fair to prove an unusually successful and profitable enterprise. In 1865, when there were less than 50 miles constructed, it earned over and above operating expenses, \$280,000 in gold; in 1866, with less than 100 miles constructed, it earned \$664,200 in gold over expenses; in 1867, with less than 150 miles constructed, it earned \$1,087,000 above the operating expenses, and in 1868, with less than 350 miles in operation, the net earnings exceeded \$1,457,000. This was upon local traffic exclusively, and justified the prediction that the Central Pacific would be remunerative from its way business alone. Since the completion of the through line, in May last, and the addition of business drawn from the Eastern lines, the business shows a large increase, even though the rates have been greatly reduced. The receipts for September foot up nearly \$600,000 in coin, and the average of the four and a half months since the junction, is upward of \$590,000 per month—or at the rate of \$7,000,000 per annum in coin, equal to \$9,000,000 currency value. Of this amount fully 70 per cent is found to be from local traffic, and the net earnings for the fiscal year promise to exceed \$3,000,000 in gold, over operating expenses. As the interest upon the Company's bonded debt is only \$1,000,000, their financial condition is very flattering.—*N. Y. Tribune.*

—The Cleveland and Pittsburg Railroad, on Monday Oct. 18th, filed a certificate increasing their capital stock \$945,048, making the total capital stock of the company \$7,243,373.

—The earnings of the Cleveland, Columbus, Cincinnati & Indianapolis Railroad in July and August, 1869, were \$599,808; in July and August, 1868, they were, \$479,772—showing an increase of \$101,036.

Railroad Items.

NEW RAILROAD—AIR LINE BETWEEN ST. LOUIS AND CINCINNATI.—Articles of association were filed in the office of the Secretary of State, of Indiana, on the 19th, for the St. Louis and Cincinnati Air-line Railroad Company. The road is to run from a point at or near the town of Merom, on the Wabash River, connecting with the Effingham Railroad and running east, through the county seats of Sullivan, Greene, Monroe, Brown, Bartholomew and Decatur, to Greensburg, thence to Cincinnati by the most feasible route. The length of the road will be about one hundred and ninety miles. The capital stock is four millions of dollars, divided into forty thousand shares, of one hundred dollars each.

Board of Directors: William Cumbach, James B. Foley, and James Gavin, of Decatur County; Benjamin F. Jones, Rudolph Griffin and William McEvan, of Bartholomew County; James B. Mulky and James Small, of Monroe County; Marcus H. Shryer, Henry C. Owens and Hughes East, of Greene County; J. W. Wolf and F. Basler, of Sullivan County.

—At the Ohio & Mississippi Railroad election in Cincinnati on the 14th, the following directors were elected: Thos. W. Alsop, Larz Anderson, Wm. H. Aspinwall, Allen Campbell, Wm. D. Griswold, A. H. Lewis, S. F. Odell, L. B. Parsons, John J. Roe, John Ross, W. W. Scarborough, F. Schuehard, Wm. Whiteright, Jr. The officers elected: W. D. Griswold, President; A. H. Lewis, Vice President; J. B. Griswold, General Superintendent; Chas. Cone, Treasurer; P. Van Deurzen, Auditor; E. D. Hammonds, Secretary; Sam. Trover, Assistant Secretary.

—The route of the Port Royal & Augusta Railroad has been surveyed from Port Royal to within ten miles of Augusta. Rails have been shipped from New York, and it is thought that the road will be completed by next May. Port Royal has an excellent harbor and hopes to rival Charleston and Savannah. The new road will be its first line, but it will give it connection with a great part of South Carolina and Georgia.

—On the 4th inst., the following gentlemen were elected directors of the Macon & Augusta Railroad Company: H. F. Russell, W. E. Jackson, John P. King, H. Moore, W. J. McGrath, H. J. Lane, B. B. De Graffenreid, Geo. S. Obeare, G. H. Hazellurst, W. H. Ross, J. T. Gardiner, S. D. Heard. At a subsequent meeting of the Board of Directors, Geo. H. Hazellurst, Esq., of Macon, was elected President.

—A vote was taken in Indianapolis, Oct. 18, on a proposition to donate seventy-five thousand dollars to aid in the construction of the Indianapolis, Delphi and Chicago Railroad, and it was defeated by twelve hundred votes. A small vote was polled; the Germans voting solid against it.

—The Connecticut Valley Railroad, from Hartford to the Short Line Road, Westbrook, on the west bank of the river, is to be put under contract directly, and completed in 1870. Its length is about fifty miles, and its stock subscription already amounts to \$1,500,000.

—The Indianapolis and Vincennes Railroad has passed into the hands of the Pennsylvania Central.

D. C. Branham succeeds John McQuiston as Superintendent.

—The second annual Convention of Railroad Conductors of the United States was held in Columbus on Wednesday of this week. President Marshall is already here.

—Five miles of iron have been laid on the railroad west of Marshall, and it is expected that the cars will be running to Hallville, thirteen miles west of Marshall, by the 1st of November.

Every one must have noticed the destructive combination of lead and iron from railings being fixed in stone with the former metal. The reason for this is that the oxygen of the atmosphere keeps up a galvanic action between the two metals. This waste may be prevented by substituting zinc for lead, in which case the galvanic influence would be averted; the whole of its action would fall on the zinc; the one remaining uninjured, the other nearly so. Paint formed of the oxyd of zinc, for the same reason, preserves iron exposed to the atmosphere infinitely better than the ordinary paint composed of the oxyd of lead.

Everitt's Acoustic Telegraph.

A series of experiments with the newly-invented Acoustic Telegraph were made Oct. 7, at the Fulton Ferry Houses, Brooklyn, in the presence of a number of gentlemen, who were as much astonished as gratified at the accuracy of the general messages that were transmitted by the acoustic telegraph through wires connecting two houses 150 yards from each other. The first message sent was that of the Rev. Dr. Deems: "He that hath ears to hear, let him hear." The Rev. Dr. Hall asked: "How long before the new bridge is to be built, and what about stock in it?" Mr. Samuel Orchard inquired: Can a man be held responsible for the place of his birth without having been consulted by his parents? The *Tribune* reporter asked: "What is the time at the ferry?" and Dr. Boscowitz inquired "the relative diagnosis between rubeola and scarlatina." These messages were all transmitted safely and much more accurately rendered than ever could have been anticipated. The invention is a battery that works without electricity through a wire that does not call for the protection of insulators, nor tall, massive poles, and that delivers a message through wire, of any length, one-eighth of an inch in diameter, submerged in water, buried in the ground, or suspended in the air. The battery consists of a solid iron cylinder one foot long or more, and four inches in diameter in facial and general, but toward the other end, which becomes conical and tapers like a Minnie ball, is an aperture, admitting the entrance of a metallic wire, the medium of communication, the whole supported by solid iron frame-work, and weighing not more than 100 pounds. At the facial end of the cylinder is a hollow hemisphere of iron, whose interior surface is covered with silver plate, constituting an elliptical mirror having a solid rim one inch in diameter. The face of this rim is ground so smooth that when it is placed in contact with the face of the cylinder, no air can intervene, and it is kept in this position by a strong spring 12 inches long, arched above, and supported by the frame work, and curved below, so as to form the signal key, by which the battery is worked and made to evolve sounds from the organic atoms of the air which surround and press upon the fan of the rim and of the cylinder, with a force equal to 15 pounds on the square inch, the moment one face is separated from the other. The distance of this separation is graduated by two metallic bars, which constitute the Diatomic Staff, and from each bar a different order of sound is created called the vowel and the consonant sounds respectively. By uniting in regular order the first and second order of sounds, the Fulcimen or third order is produced. By uniting the second and first order, the Bifulcimen or fourth order is generated, and in commingling together the first and second primary orders, the Valorem or fifth order of sound is created, and together they represent and express, under specific symbolic formula of sounds, each letter of the English Alphabet, and each Arabic Notation; and each one is so characteristic and expressive of itself that no mistake can occur in translating a message. The inventor is Dr. Lancelot Hope Everitt of New Orleans, La., who was elected a member of the Royal College of Surgeons in Edinburgh some years ago. The Doctor's theory is that sound is a triune molecule of matter, silent, inertia, impulsive force, and explosive sound, and exists in all the organic

atoms of the world. That he can evolve these molecules from the organic atoms of the air in such a way, by means of his Acoustic Battery, as to collect them into two dissimilar units of sound, which he converts into two primary orders. When thus evolved the hemispheric mirror reflects them through the solid cylinder, which then inducts them into the cone of the wire, through which it passes with great velocity to the end of the wire. This end is all the time in contact with a glass bell made for the purpose. When a message is about being sent a tattoo is sounded by the battery and this rings the bell so loud you can hear it 20 feet off. The message then follows in symbolic order, and as they chime their intonations upon the bell they are easily interpreted by the receiver of the message.—*N. Y. Tribune.*

A New Air Brake.

The brake is the invention of Geo. Westinghouse, Jr., of Pittsburgh. It was introduced, in February last, on an accommodation train on the Pan Handle road, on which it has been in successful use. It was also applied with like results to the cars composing the Wall's Accommodation train, running several times daily from Pittsburgh on the Pennsylvania road. The decisive experiment to which allusion is made was with the special train of six cars on which the master mechanics, after the close of their recent convention at Pittsburgh, visited Altoona, passing over the twelve-mile section of heavy grades and sharp curves, down the eastern slope of the Alleghenies from the "Summit" tunnel to Altoona. The *experimentum crucis* was made at the famous "Horse Shoe Bend," where the minimum curvature,—9 degrees, or 637 feet radius is found, on a grade 90 feet to the mile. Down this grade the train was run at the rate of 30 miles per hour, and the cars were brought to a rest in running 427 feet—seven car lengths. At Altoona, the train was stopped in 11 seconds, running less than its own length. I condense a description from notes furnished me by Supt. Williams:

Attached to the running board, on the right side of the locomotive, under the engineer's eye, and supplied with steam from the boiler, is an upright direct acting air pump reservoir, attached to the foot board and under the cab. When the pressure of steam rises, giving more power to the pump, the pressure in the reservoir also rises; or if the engineer draws a supply from the reservoir to apply the brake, the pump begins working, until the steam and air pressures are the same, less friction in the pump. The quantity of steam used is scarcely perceptible, and the time necessary to restore the pressure varies from one to two minutes. Under each car is a cylinder firmly bolted in such a position that the piston acts directly on the lever, now used for the ordinary hand-brakes, without at all interfering with hand-braking. The air is conducted to these cylinders from the reservoir by a line of inch gas pipe, the connection with each cylinder being made from the main line, with a quarter inch below. On each end of the cars the pipes are extended by three-ply rubber hose, which are so connected when the cars are coupled that when the two parts are united the air passes freely through them; but should the cars become detached, the coupling, which is held together by stiff springs, pulls apart, the valves close, and thus render the brake still effective on the balance of the train; or should the brake have been

applied and afterward a car become attached the valves would immediately close on the detached car and the brake continue applied, thus preventing the car from running back on the grade. On the engine there is what is called a three way cock, by which the brake is worked. When turned one way, it lets the compressed air from the reservoir into the pipes; when turned the other way, the air is permitted to escape, and releases the brakes. The engineer alone can raise them to any degree of power he sees fit by letting more or less air into the pipes.

Statistics of Immigration.

The official statement of passengers arrived in the United States during the year ending June 30, 1869, has just been compiled at the Bureau of Statistics, and will appear in the next monthly report. The following abstract is furnished:

The total number of passengers arrived was 389,651, of whom 240,477 were males and 149,174 females. Of these 53,342 were cabin and 336,309 steerage passengers. Of passengers not immigrants there were: Citizens of the United States, 26,776; passengers not intending to remain, 10,306. The actual immigrants numbered 352,596, of whom 214,748 were males and 137,821 females; 79,803 were under fifteen years of age, 232,198 were between fifteen and forty, and 40,568 of forty and upwards.

These immigrants arrived at the following Customs Districts: At New York, 253,754; Huron, 35,586; Boston, 23,294; San Francisco, 13,490; Baltimore, 11,202; Portland, Me. 4,026; New Orleans, 3,424; Detroit, 3,396; Philadelphia, 1,061; Oregon, 978; Texas, 709; Key West, 476; Charleston, 331; Cayahoga, 215; Chicago, 206; Gloucester, 170; all others, 251.

The nationality of these immigrants was as follows: Germany, 132,537; Great Britain, 60,286; Ireland, 63,938; Sweden, 24,224; British North American Possessions, 20,918; Norway, 16,068; China, 12,874; France, 3,879; Switzerland, 8,650; Denmark, 3,649; West Indies, 2,234; Belgium, 1,922; Italy, 1,488; Holland, 1,134; Spain, 1,123; Azores, 420; Russia, 343; Mexico, 320; Poland, 184; all others, 378. The occupations reported by immigrants were as follows: Laborers, 88,649; farmers, 28,096; mechanics not reporting special trades, 16,552; servants, 10,265; merchants, 8,809; miners, 6,005; clerks, 1,643; masons, 1,388; mariners, 1,219; tailors, 1,124; shoemakers, 1,106; bakers, 870; weavers, 771; butchers, 645; physicians, 397; artists, 375; painters, 369; clergymen, 298; engineers, 285; seamstresses, 282; brewers, 247; fishermen, 211; teachers, 181; jewelers, 171; all others of specified occupations, 1,436; occupations not stated, 725; without occupation, 180,449, all women and children. The statement is also accompanied by a statement of passengers departed from the United States during the year, which shows the whole number to be 73,846, of whom 52,272 were males, 21,573 females, 65,396 were adults, 8,449 children; 70,893 departed by steamships, 2,950 by sailing vessels; 36,692 were cabin, 37,153 steerage passengers. Of the total number 55,959, left New York, 5,983 San Francisco, 3,268 Genesee, 2,417 Boston, 1,714 Puget's Sound, 1,215 Portland, Me., 1,205 Oregon, 979 New Orleans, 680 Baltimore, 312 Alaska; all others, 113.

Steel for Locomotive Fire-Boxes.

The American Master Mechanics' Association met recently at Pittsburg, Pa., and among other of their proceedings was the rendition of a report from a special committee on the use of steel for locomotive boilers and fire-boxes. The essential points of the report related to the question, "Are steel plates preferable to the best iron plates? and, if so, does the difference in strength, safety, and durability justify the difference in cost?" Also, "How, in practical experience, does steel for furnaces compare with copper?" The committee state that they have visited in person or by proxy most of the railroads in the United States, and made careful examination of all that related to the matter before them. Their conclusions may, therefore, be of some interest to steam engineers and others.

The report sets forth the conviction that even the best brands of iron have materially deteriorated during the past ten years; that the more general use of coal, from the injurious action of its sulphurous and other impurities, tends to the more rapid destruction of the metal; and that from these causes the average life of an iron fire-box—unless made of the best Low Moor—is now not more than three years, while in many cases it does not exceed one-half of this period. Even the best selected sheets of the most noted brands are often burned out, blistered, or made brittle. This, it is believed, is not the fault of the manufacturers, but arises from the conditions to which the plates are necessarily subjected, and consequently such drawbacks can only be obviated by the substitution for iron of some other material. It was thought for a while that this would be found in copper, which has in some cases given the very satisfactory result of eight years use, which may be considered the maximum life of a copper fire-box. In most instances, however, the action of the fire and of the sulphurous gases of bituminous coal corrode the metal, so that the fire-box lasts no longer than the average one of iron. An official of the North-western Railroad reports fifty-one locomotive fire boxes, made of copper sheets half an inch thick, which, after thirty months use, show marked indications of wear, and will probably have to be renewed in a short time. In some cases, after less than three years service, the original half-inch sheets were reduced to less than one-eighth of an inch. One instance was mentioned in which, although neither the appearance of the fire-box nor the length of time it had been in use would warrant any surmise of its unsoundness, a single stroke sent the face of a riveting-hammer through the sheet—the latter having been reduced to a thickness of one-sixteenth of an inch.

With reference to the application of steel for the purpose indicated, it is stated that on the North-western Railroad a locomotive has been run for eight years with a steel fire-box, which has thus far shown no signs of wear, although the coal and water used had proved extremely detrimental to the iron and copper fire-boxes previously used on the same division of the road. On the Pennsylvania Railroad are two locomotives which were fitted with steel furnaces in 1861, which still remain intact. About the same time, on the Baltimore and Ohio Road, two locomotives were furnished in like manner, and with the same results—no leakage or other evidence of giving out being thus far manifest.

In addition to the advantages of durability characteristic of the steel fire-boxes, the committee assert that with them there is none of

the tendency to the collection of cinder, soot, etc., upon the sides of the fire-box which is experienced with iron and copper, and which necessarily detracts from their power of conducting or transmitting heat. The report concludes with the statement, well worthy the attention of all interested in the subject to which it relates, that "the committee decide emphatically in favor of homogeneous steel plates for locomotive fire boxes, at least of all those that burn bituminous coal; and that for boiler plates for general construction this material combines in a greater degree than any other the requisites of durability, safety, and economy."

A New English Railway Signal.

The subject of railway signals is one of perennial interest and public importance, for there can be no doubt that a more perfect system of signaling than that which now obtains would very much diminish the number of accidents to life and property on our lines. The following is a description of the latest apparatus of the kind brought across the water:—"When the invention is to be used upon a railway or tramway, it is conveniently applied by attaching to a convenient frame or support, fixed by the side of the railway or tramway, a signal arm, and also an index pointer and dial, in such a manner that the tyres of the wheel of the passing engine or carriage or some part of engine or carriage itself, may act upon the bar, which acts upon a cam so as to give motion through a connecting rod and lever to a rod attached to the frame or support. To one end of the rod is attached a rack, and at the other end is a piston working in a suitable cylinder like that of a force-pump. The rod, on being raised or lowered, acts upon and turns a pinion which carries with it the signal arm, and also the index pointer, which moves on the face of the dial like that of a clock. The passing engine or carriage acts by means of the levers and rod above mentioned upon the pinion-wheel, and so upon the signal-arm and index-pointer, which are thereby set at a given position, for example, so that the index-pointer points to zero on the dial plate. The rod, and with it the piston, being raised produces a vacuum in the cylinder, which is connected with a suitable small reservoir or vessel containing water or other fluid. The fluid rushes in through the suction-pipe and fills the cylinder. The piston and signal-rod, and any necessary weight that may be attached to them, begin then to press upon the water or other fluid contained in the cylinder with a constant and uniform pressure. The water or other fluid is then allowed to flow out of the cylinder through a small aperture at a given speed, which may be regulated by any suitable valve. As the fluid issues, the piston descends and moves the signal-arm and the index-pointer on the clock-dial at any given rate."

Mount Washington Incline Plane Co., at Pittsburg.

Our readers are aware that a project has been on foot for some years past for the erection of an inclined plane up the face of Mount Washington. Eight or ten years since a company was organized, and the work of grading actually commenced, but owing to some legal difficulties the enterprise was abandoned. Since that time, however, the number of residents on Mount Washington has largely increased, and the necessity of providing some safe and easy mode of com-

munication with the city become more and more apparent. Last winter a new company was organized under the name of the Monongahela Incline Plane Company, with Hon. T. J. Bigham, as President; and Messrs. Samuel Harper, A. S. Bell, James D. Bailey, John L. Aul and Capt. McMillen, as Directors. In May last a site was selected at a point a few yards below the south end of the Monongahela Suspension bridge, and plans for the design and construction of the railway advertised for. Among the plans submitted was one designed by Mr. J. J. Endres, a Prussian mining engineer of great ability. After visiting and inspecting the various inclines in this and other States the Directors finally adopted the plan submitted by Mr. Endres, and he was secured to take the position of Engineer of Construction. The work on this important enterprise was commenced recently, and it is expected that the road will be completed and open for travel within three months. The road will have a vertical height of three hundred and thirty-three feet, and the total length will be six hundred and seventy feet. It will have an inclination of thirty-five degrees, and there will be no undulating grades. There will be two tracks of five feet gauge. The motive power will be erected on the top of the hill, and will consist of two engines, with cylinders of twelve inch diameter and twenty-four inch stroke, with link motion. The boilers, of which there will be two, will be twenty-five feet long and three and a half wide. The cars will be of peculiar construction having two compartments, one above the other, with the separate doors, so arranged as to be on a level with the platform. The ropes used in lowering and drawing the cars will be of wire one and a half inch thick, and will be coiled on drums eight feet in diameter. In addition to the wire rope a heavy rope, running over a horizontal "sheaf" will be attached to each car, and will afford security against accident. The link motion of the engine will be an additional safeguard. The road will be built in the most substantial manner. That portion crossing the Pan Handle road and a small coal road will be constructed of iron, and the remainder of heavy timbers well braced at every point. The contract for the iron work has been awarded to Messrs. Douglass & Son. The enterprise promises to be a successful one in a financial point of view, while it will be a great convenience to those who are now compelled to toil up the steep hill road. The population of Mount Washington is now about five thousand, and with such facilities for communication with the city, it can not fail to increase rapidly and to enhance the value of property.—*Pittsburgh Chronicle*.

With regard to the use of steel rails the report of the New York State Engineer recently published says: "There is a growing feeling among engineers and steel-makers that the compound rail, made wholly or partly of steel, will prove more safe and economical than any solid rail, and that the defects of the old compound rail, largely used in this State some years since, may be avoided, since these defects were chiefly due to the nature of the material. The experiments in this direction will be watched with great interest by railway managers, for if the same durability of track can be obtained with a steel cap as with an all steel rail, the first cost will be greatly decreased. A rail made in two or three continuous parts, breaking joints, is also a practical insurance against broken rails."

The labor exchange lately established at Castle Garden, New York, is doing a good work. From Sept. 1 to 15, there were 2,012 applications for employment received, of which 1,420 were by males and 592 by females. There were 2,151 orders for laborers received, of which 1,520 were for males and 630 for females. Number employed, 1,908—males, 1,398; females, 510. Among these were 13 families, comprising 31 persons. The applicants averaged 155 per day; orders, 164 per day; engagements, 147 per day. For males the average rate of monthly wages is \$16.50; for females, \$10. The following is a description of the labor: Mechanical labor, 254 males; agricultural labor, 1,144 males; skilled labor, 23 females; unskilled labor, 487 females.

A CARD.

A Clergyman, while residing in South America as a missionary, discovered a safe and simple remedy for the cure of Nervous Weakness, Early Decay, Diseases of the Urinary and Seminal Organs, and the whole train of disorders brought on by baneful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope, to any one who needs it, *Free of Charge*. Address,

JOSEPH T. INMAN,

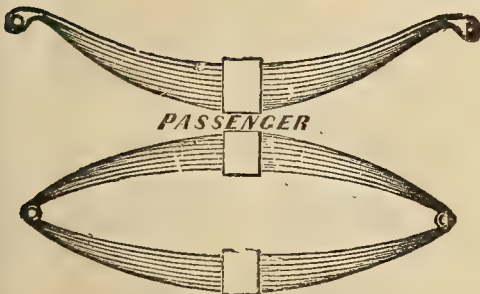
Station D, Bible House,
NEW YORK CITY.

7-10-9, 13.

RAILWAY SPRINGS. FREIGHT



PASSENGER



LOCOMOTIVE ENGINE



THE Subscriber offers to Railroad Superintendents, Locomotive and Car Builders, a superior quality of

ELLIPTIC AND SEMI-ELLIPTIC SPRINGS.

Made at his shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight. All Springs tested to double their usual load.

PHILIP S. JUSTICE,

No. 14, N. 5th St. Phil. No. 42 Cliff St. N. Y.
Shops—Seventeenth and Coates St. PHIL.

John A. Griswold & Co.

TROY, N. Y.

J. A. Griswold. E. Corning. E. Corning, Jr.
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PROPRIETORS OF THE

RENSSELAER IRON WORKS,

BESSEMER STEEL WORKS,

FORT EDWARD BLAST FURNACE,

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COLUMBIA BLAST FURNACE.

MANUFACTURERS OF

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MERCHANT & SHIP IRON,

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Shafting, Plates & Steel Forgings

of every description.

EDWIN J. HORNER,

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MATHEMATICAL INSTRUMENTS,

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Chilled Railroad Car Wheel, Tyre,

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Railroad Machine Works,

WILMINGTON, DELAWARE,

MANUFACTURE

Chilled Wheels and Tyres

FOR

Railroad Cars

and

Locomotive Engines.

ORDERS executed promptly to any extent for these celebrated Wheels, either single or double plates with or without axles.

WHEELS FITTED

Hammered or Rolled Axles, in the best manner and the shortest notice, and on the most reasonable terms

ERIE RAILWAY.

1400 MILES under One Management. 860 MILES without Change of Coaches.

BROAD GAUGE, DOUBLE TRACK ROUTE
FOR—

NEW YORK, BOSTON,

Providence, Albany,

PITTSBURG, HARRISBURG

Philadelphia, Baltimore,

And Principal Points in

NEW YORK, NEW ENGLAND

—AND—

Pennsylvania.

This Railway extends from

CINCINNATI to NEW YORK, - 860 Miles.
CLEVELAND to NEW YORK, - 625 Miles.
DUNKIRK to NEW YORK, - 460 Miles.
BUFFALO to NEW YORK, - 423 Miles.
ROCHESTER to NEW YORK, - 385 Miles

AND IS FROM

22 to 27 MILES the SHORTER ROUTE.

TWO EXPRESS TRAINS DAILY
Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS,
(Sundays excepted.) Arrive Dayton 9.10 A. M.; Urbana, 10.28 A. M.; Galion, 1.00 P. M.; Mansfield, 1.42 P. M.; West Salem, 2.49 P. M. (Dine). (Sleeping Coaches through to New York); Akron, 4.25 P. M.; Ravenna, 5.10 P. M.; Meadville, 7.55 P. M. (Supper); Susquehanna, 7.55 A. M. (Breakfast); Turner's, 1.22 P. M. (Dine); New York, 3.00 P. M. Connects at Ravenna with Cleveland & Pittsburgh Railroad for Hudson and Cleveland; at Elmira for Williamsport and the South; at Binghamton for Cooperstown, Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS,
daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.25 A. M.; Galion, 4.00 A. M.; Mansfield, 4.44 A. M.; West Salem, 5.55 A. M. (Bkfst); Akron, 7.33 A. M.; Ravenna, 8.20 A. M.; Meadville, 11.16 A. M. (Dine); Hornellsville, 6.19 P. M. (Supper); New York, 6.30 A. M. Connects at Mansfield with Pittsburgh, Ft. Wayne & Chicago Railway for Pittsburgh; Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities.

New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through **860 Miles without Change.**

Boston and New England Passengers, with their Baggage, are transferred FREE OF CHARGE in New York.

IF The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street, New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

IF The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

Baggage Check'd Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY,

Which can be obtained at the Company's Offices in Cincinnati, 80 West Fourth Street. 115 Vine St. 4 Burnet House, and foot of Broadway. (Spencer House Block) and at all principal Ticket Offices in the South and South-west.

L. D. RUCKER,
General Sup't.

WM. R. BARR,
Gen'l Pass'r Ag't.

GRAND SCENERY!

QUICKEST ROUTE

50 Miles in Distance Saved.

Baltimore & Ohio R.R.

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BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,

WITH THE PRIVILEGE OF GOING TO

WASHINGTON

FREE!

NO CHANGE OF CARS

From Cincinnati to Baltimore and but ONE CHANGE to
or Columbus to Philadelphia and New York.Ask for TICKETS and
BAGGAGE CHECKS via Baltimore & Ohio R.R.J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
G. B. GIBSON, General Western Passenger Agent.

Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City	7 00 A. M.	9 20 P. M.
Toledo & Detroit	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail	7 00 A. M.	5 25 P. M.
Richmond & Chicago	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada	6 00 P. M.	10 30 A. M.
Hamilton Accommodation		6 45 A. M.
Richmond & Chicago	7 00 P. M.	9 20 A. M.
Hamilton Accommodation	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at
head office, south-east corner of Broadway and Front; Bar-
ret House Office, corner Vine and Baker streets, and at the
respective depots, East Front and West Sixth streets.P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.

JANUARY 5th, 1868.

Cincinnati to St. Louis Without
Change of Cars.

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph,
Jefferson City, and all points on the Lower Mis-
sissippi River; and on the the Illinois
Central Railroad.

RAINS RUN AS FOLLOWS:

	Morn. Ex.	Even. Exp.	Seymour Acc.
Leave CINCINNATI	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS	1 00 "	1 20 p.m.	9 40 "
Trains Arr. at C. M.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 131 Vine
street, Corner Front and Broadway; and at Depot, Foot
Mill Street.C. E. FOLLET Gen. Passenger Agent
J. W. UNLOQUE,
General Superintendent

Best Route to St. Louis and Chicago

INDIANAPOLIS,

CINCINNATI

-AND-

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,

CAIRO,

CHICAGO,

Memphis, New Orleans, Springfield, Quincy,
Keokuk, St. Joseph, Des Moines, OmahaAnd all Rail and River Towns and Cities in the West,
North west and South-west.ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS
WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail	6 30 am	12 20 am
St. Louis and Springfield Express	3 35 pm	8 20 am
St. Louis and Springfield Express	10 35 pm	3 30 pm
Lawrenceburg Accommodation	10 00 am	2 35 pm
Lawrenceburg Accommodation	4 45 pm	8 05 am

*The 10.35 pm. train will leave Sundays, but not on Sat-
urdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail	7 00 am	10 00 am
Chicago Express	6 40 pm	9 40 pm
Harrison Accommodation	6 10 pm	6 40 am

Through Tickets can be obtained at the Barnet House
Office, corner of Third and Vine; River Office, corner of
Walnut Street and River; and at Depot, corner of Plum
and Pearl streets. The splendid Passenger Depot of the
I. & C. Railroad is about a mile nearer the business center
of the city than the Depot of any other railroad, and with-
in a few squares of the Postoffice and principal hotels and
Steamboat landings.*J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

Philadelphia, Wilmington & Baltimore

RAILROAD!

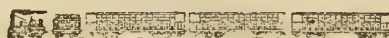


FOUR PASSENGER TRAINS DAILY

TRAIN LEAVE PHILADELPHIA for the SOUTH DAILY

1.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
(Express); 2.30 P. M.; 11.30 P. M. night.
On Sundays, 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West, 7.35 A. M.; 7.20
A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
P. M. (Express).
SUNDAY TRAINS—Leave Philadelphia for Baltimore
at Washington at 4.15 A. M. and 11.00 P. M. Leave at
timings for Philadelphia at 8.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave
Wilmington for Philadelphia at 8.30 P. M.

The Old And Reliable Route.



Through to Pittsburg without Change.

The PITTSBURG, FORT WAYNE & CHICAGO RAIL-
ROAD, in connection with the Cincinnati, Hamilton &
Dayton, and Little Miami Railroads, still continue to trans-
port produce and merchandise between Cincinnati and
Pittsburg, Philadelphia, Baltimore, New York or Boston,
and all Eastern points with the greatest promptitude and
dispatch.For Rates, Bills of Lading, or any information desired,
shippers will please apply toH. W. BROWN & CO.,
No. 27 West Third Street, Cincinnati.
W. P. SHINN, General Freight Agent,
Pittsburg, Pa.

LOUISVILLE & CINCINNATI

SHORT-LINE RAILROAD.

Time only 5 hours

Fare Only \$3.50—Transfer from Hotel or
Residence to Depot, in Covington, Free.THE SHORTEST ALL-RAIL ROUTE TO
Louisville, Nashville, Memphis, New
Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail	7.00 A. M.	2.30 P. M.
Evening Express	5.45 P. M.	9.00 P. M.
Walton Accommodation	4.00 P. M.	9.30 A. M.

The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
the Walton Accommodation, offer great inducements to the
citizens of Cincinnati and Covington who wish to pur-
chase country residences or small farms for gardening.
This train leaves late in the afternoon, and arrives early
next morning, giving all day to attend to business. For
further information as to routes, low fare, &c., please apply
at No. 1 Burnet House, or Depot, Covington, Ky.

SAM'L GILL, Gen'l Sup't. Louisville.

CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Lib-
erty st., connects at Hampton Junction with the Dela-
ware, Lackawanna, and Western Railroad, and at Easton
with the Lehigh Valley Railroad, and its connections,
forming a direct line to Pittsburg and the West, without
change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago,
Cincinnati, St. Louis, etc., with but one change of cars.
Silver Palace cars through from New York to Chicago.

FAIR ARRANGEMENT.

Commencing August 30, 1869. Leave New York as
follows:6:55 a. m.—For Easton, Bethlehem, Mauch Chunk,
Williamsport, Wilkesbarre, Mahanoy City, Tuckahoe, &c.
7:15 a. m.—For Somerville.
8:30 a. m.—For Flemington, Junction, Stroudsburg,
Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.
12 m.—For Flemington, Easton, Allentown, Mauch
Chunk, Wilkesbarre, Reading, Columbia, Lancaster,
Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.
3:30 p. m.—For Easton, Allentown, Mauch Chunk
and Belvidere.
4:30 p. m.—For Somerville.
5:25 p. m.—For Somerville and Flemington.
6 p. m.—For Easton and intermediate stations.
7 p. m.—For Somerville.
7:20 p. m.—EMIGRANT—Stopping only at the princi-
pal stations.
9:00 p. m.—For Plainfield.
11:50 p. m.—For Plainfield, on Wednesdays and
Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays.)
for Easton, Allentown, Harrisburg, and the West without
change of cars to Cincinnati or Chicago, and but one
change to St. Louis. Connects at Harrisburg for Erie and
the Oil Regions. Connects at Junction for Stroudsburg,
Water Gap, Scranton, &c. Connects at Phillipsburg for
Mauch Chunk, Wilkesbarre, &c.5 p. m.—CINCINNATI EXPRESS, daily (except Satur-
days.) for Easton, Bethlehem, Allentown, Reading, Harris-
burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars
to Pittsburg and Chicago. Connects at Junction with
Delaware, Lackawanna and Western Railroad for all sta-
tions to Scranton. This train will be run to Easton on
Saturdays as a local train, stopping at principal stations.8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,
Allentown, Reading, Harrisburg, Pittsburg, and the West
—connects at Harrisburg with train for Williamsport, Erie,
&c.Sleeping cars through from Jersey City to Pittsburg
every evening.Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15,
8:15, 8:30, 9, 9:20, 10:30, 11:40 A. M.—12 m., 1:00, 2:40
3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25,
7:10, 7:20, 7:40, 8:00, 9:00, 9:40, 10:40, 11:50 p. m.Tickets for the West can be obtained at the office of the
Central Railroad of New Jersey, foot of Liberty st., N. Y.;
at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at
No. 10 Greenwich st., and at the principal hotels.R. E. RICKER, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - } Editors.
T. WRIGHTSON, - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, OCTOBER 28, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
" " per month.....	5 00
" " six months.....	15 00
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" " per annum.....	110 00
" page, single insertion.....	25 00
" " per month.....	40 00
" " six months.....	135 00
" " per annum.....	210 00

Cards not exceeding four lines, \$7 00 per annum.

WRIGHTSON & CO., Prop'r's.

Our Agricultural Products as the Elements of Internal Commerce.

When railroads were first advocated and commenced in Ohio, Indiana, and the Western States, an appeal was made to farmers, that this new, rapid and certain mode of transportation would bring all the great markets of the country to the door of the farmer, and practically be more beneficial to him than to any class of the community. The argument was not only true, but the practical effects of railroads on farm property were far beyond the most sanguine expectations of the greatest railroad enthusiasts. It was thought that when railroads and canals cheapened the freight between Ohio and New York, this difference would be divided between the consumer in New York and the producer in Ohio. In fact, *it all went to the producer*. This was a singular result; but no one who has followed the course of the markets can doubt that. Go back to 1840, for example: Beef was, say, 15 cents a pound for rib-roasts, in New York, and not more than 5 cents to the farmer in Ohio. When railroads were made, by which cattle were carried to New York in a very short time, beef rose successively to 20, 25, 30, and was 35 cents per pound for the best cuts.

This rise was, of course, not caused by railroads, but by the great increase of the Eastern cities. It does, however, prove the *negative*, that railroads had not in any way diminished the price of food with great markets. On the other hand, the *price to the producer* rose rapidly, in fact immensely. Before the Ohio canal was made, wheat in

Massillon, Ohio, was but 37½ cents per bushel, but after the canal was made, it rose to 70 cents, and after the railroads were made it averaged over \$1.00, before the war. We then see what an immense, incalculable advantage the construction of railroads was to farmers. Ohio has 25,000,000 acres of arable land; and beyond doubt, the average value of that land has been increased \$10.00 per acre, (\$250,000,000 in the aggregate by the construction of railroads.) And in the five great Central States, Ohio, Indiana, Illinois, Michigan and Wisconsin, railroads must have raised the aggregate value of lands, at least *fifteen hundred millions of dollars*; the effect on Indiana and Illinois being in fact much greater than in Ohio, because they were farther from the great markets than Ohio. Such was the immediate effect of the railroads in the interests of agriculture. But it is the other side of the picture we wish to contemplate now, viz: *what agriculture and its products have done for railroads*. To begin with this subject, there has been a total revolution in the idea, and in the work of railroads, as originally, in the beginning of railroad ideas, contemplated, as the want of railroads.

It was originally thought, and engineers considered it demonstrated, that railroads could only carry *passengers and very light freight*. This was the theory of all the engineers in 1825-30, when the Liverpool & Manchester road was the principal one in operation. It continued to be the theory with little variation till 1840, and after. Nothing ever changed that theory till long after, when the actual carriage of heavy freight demonstrated that these ideas were erroneous. Now, we think an examination of all the railroad reports in the country will show that the receipts from *freights* are not only the largest, but very much the largest. And how are these receipts made up? By far the largest amount of receipts from freight is derived from the carriage of agricultural produce. Thus, the farm lands return back to the railroads ultimately all, and more than all, the benefit railroads conferred upon the agricultural interest. Let us take CORN, the staple of the Ohio valley, in its relation to railroads. There are in Ohio, 3,000,000 of acres of corn land, though not all cultivated. The States of Kentucky, Tennessee, Indiana, and Illinois, have in the aggregate fully as much in proportion. In the Ohio valley, then, there are *fifteen millions of acres of corn land*, and the *average* production per acre, as shown by statistics, is 34 bushels. Supposing the corn land in these five States to be developed, as it soon will be, there will be five hundred and ten millions (510,000,000) of bushels of corn raised, how much surplus does that produce to be carried off, in the shape of corn, pork, beef, whisky, and all articles into which corn enters as an element? We have some

data for determining this, by what Ohio with a given crop actually did send off as surplus. In 1857, Ohio raised 82,000,000 of bushels of corn, a large crop for that year. In 1857-58, as the result of this crop, Ohio exported, in the products of corn, as follows:

Corn.....	2,000,000 bushels.
Whisky.....	436,000 "
Pork and Bacon...	464,457 "
Lard.....	80,000 "
Lard Oil.....	20,000 "
Cattle.....	118,000 "
Hogs.....	340,000 "

This is disregarding what went to make beef and other articles exported, which may be deducted from that part, which of beef cattle made by grass feeding. There are 340,000 tons of railroad *freight* in the State of Ohio, derived from the single article of corn. But this is exclusive entirely of that great amount of freight which goes from place to place in the State, called *way freight*. If we consider the five States in the valley of the Ohio, we shall find that *corn* alone produces *two millions of tons of freight*. We give this simply as an illustration of the general principle, that railroads now owe most of their profits, whatever they may be to the resources of agriculture.

We find in the daily papers some statistics of our export trade, which will give some illustration of the general principle. Our foreign exports are only a comparatively small fraction of our production, and indeed but a fraction of what is carried on railroads, and consumed in our *home markets*; yet it may serve to show that this sort of business for railroads is increasing, and already amounts to great magnitude. New York and vicinity consumes *a million of barrels of flour* each year, and New England *two millions*. This must all be carried on railroads, although it is not a foreign export. Yet the foreign export shows something of what is going on; and we give the following tables, taken from the *Philadelphia Press*, and we believe from the forthcoming report of the Commissioner of Agriculture, as example of our growing foreign export of agricultural productions.

1. Value of Breadstuffs, exported since 1860:

In 1860.....	\$26,989,709
" 1861.....	73,531,544
" 1862.....	84,340,653
" 1863.....	89,213,736
" 1864.....	63,463,353
" 1865.....	53,502,511
" 1866.....	40,682,336
" 1867.....	40,983,168
" 1868.....	79,046,187

We see that the report of 1868 exceeded that of 1861, which was thought to be very large. There is little doubt that the exports of breadstuffs from this country will be im-

mensely increased. In the year 1869 there is already an advance on the exports of 1868.

The following table will show the increase of live stock in the great valley:

	Value in 1860.	Value in 1869.
Ohio	\$80,384,819	\$140,991,600
Indiana.....	41,855,539	79,728,236
Illinois.....	72,501,225	120,589,917
Missouri.....	53,693,678	64,490,717
Iowa.....	22,476,293	95,109,517
Michigan	23,714,771	54,426,109
Wisconsin.....	17,807,375	55,507,096
Inc'se, 7 States	\$312,433,731	\$630,843,192

We thus see that the value of live stock in these States has increased to double the value, deducting the depreciation of currency, has in nine years advanced full fifty per cent. This indicates the great advance in cattle and hogs, which are the chief elements of animal products exported. The practical application we make of these facts is, that the materials for railroad freight are rapidly increasing, and thus the good and well managed roads must increase in their business and profits, continually, till this country has become fully cultivated and densely populated.

Will's Valley Railroad.

A correspondent of the *Atlanta Constitution* speaking of this road which is to be a great feeder of the Cincinnati Southern Railway, and form a link in this great central short line to Mobile and New Orleans, says:—

"The Lookout range extends 90 miles, with Chattanooga at one end, and Gadsden, Ala., at the other. And on the summit, the whole distance, is a public highway, and along its base runs the Will's Valley Railroad, which is in rapid process of construction, with nearly 100 miles in running order. From Chattanooga it is completed to Lebanon, DeKalb county, Ala., and from Meridian, its western terminus, it is completed to Jones' Bluff, in Sumter county, Miss. This and the "South and North Road," from Montgomery to Decatur, are ex-Gov. Patton's pet enterprises. He is deeply absorbed in them, and expects to have both complete in two years or less time. He has 1,500 hands on the former and about 1,000 on the latter."

This speaks well for the energy of Gov. Patton and his associates. Their line will be, no doubt, pushed forward rapidly to completion, as we understand they have recently negotiated their bonds (which are endorsed by the State) on very favorable terms in the London market.

We are indebted to Hon. JOB. E. STEVENSON for a copy of Raymond's Report on the Mineral Resources of the United States west of the Rocky Mountains.

Council Bluffs has granted the privilege to run their street railways with dummy engines.

Cincinnati Southern Railway.

The quantity of freight going South is far too much for the capacity of the railways running in that direction, and there has been general complaint regarding the delay in the transit of goods shipped to Southern markets. Additional railway facilities to the South are badly needed, and we hope our Southern Railway will be built without delay. Ten years hence it will require three or four railways to carry the Southern freight, from this market alone.—*Price Current*.

The above paragraph is expressive of the needs of the trade of the city. At present we have no avenue to the South that is not under the control of parties who are interested in delaying the transit of goods purchased in Cincinnati. The truth is, that purchasers of goods for the Southern market, have but "Hobson's choice" as to how they will ship them, and if they can not stand the delays of a blockade of traffic, why they are compelled to buy in Louisville, where the market is limited, the prices higher; but they have the single advantage of immediate shipment of goods. This is a matter that is felt not only by the merchants and manufacturers of Cincinnati, but by the dealers and consumers of the South.

The hope expressed by the *Price Current*, that "our Southern Railway will be built without delay," is but the expression of a universal desire, both here and at the South. It is but justice to the Trustee to say that this will be done, as soon as so great a work can be accomplished. The Trustees are not asleep, as some suppose; but are doing such preliminary work as is absolutely necessary, and without which they would be but madmen to proceed.

We will say to our friends at the South who have been making inquiries of us on the subject, that Cincinnati is in earnest in reference to her Southern Railway, and that the Trustees who have the matter in charge are neither myths nor sluggards, and will construct it as soon as any other prudent men could, or would dare, to do it. They, however, do not propose to either waste their trust fund, or to begin a work that can not be completed, or that will not be what is wanted when done. Rest quiet, gentlemen, and relief will come in good time.

NEW ARRANGEMENT.—The Lake Shore & Michigan Southern R. R. Co. have acquired by a lease of 99 years, the "Gardner road, which runs from White Pigeon through Three Rivers and Kalamazoo to Grand Rapids, and have commenced operating the same under the direction of P. D. Cooper, Esq., late assistant superintendent of the Detroit & Toledo road. Mr. C. makes his headquarters hereafter at Kalamazoo, leaving Detroit, where he has been located so many years last past. We congratulate our friends along the line of that road upon the accession of Mr. Cooper to its management, as he is a gentleman and a thorough railroad man.—*Mech. and Inv.*

Fort Wayne, Muncie and Cincinnati Railroad.

The call for a meeting in aid of the Fort Wayne, Muncie and Cincinnati Railroad, to be held at the Board of Trade Hall on the 19th inst., did not bring out a very large attendance, owing to the inclemency of the weather. Among those present, however, were a score of prominent business men, some of whom seemed to have a live interest in the object. Maps were shown, giving an idea of the road that is soon to be completed, and of the big area of valuable territory in Indiana to which it is to offer railroad communication for the first time.

In informal conversation the following facts were developed: The road is now in operation from Cincinnati to Muncie, north, via Hamilton and Connersville, and by the 1st of December will be in operation from Fort Wayne to Bluffton, south. What is asked of Cincinnati capitalists is simply to invest \$500,000 in bonds for the completion of the forty-two miles from Muncie north to Bluffton.

In its line from Muncie to Fort Wayne, it will cut across a belt of country, one hundred miles in width, which has hitherto had to send its rich products of corn, wheat, and live stock far out of the way by wagon, and then on an out-of-the-way track to Indianapolis, to seek a market. This road completed, all the trade of the country must come directly to Cincinnati as its nearest market. By connections at Fort Wayne, it will also open to Cincinnati trade vast territories of Michigan.

The meeting was called to order by Miles Greenwood.

MR. LEWIS WORTHINGTON,

The first speaker, said: The Cincinnati and Indianapolis Junction Railroad Company, lessee and owner of the Fort Wayne, Muncie and Cincinnati Railroad, in their efforts to complete those lines, have now built, and in successful operation, the entire junction road from Hamilton to Indianapolis, ninety-eight miles. We have also, complete and running, of the Fort Wayne, Muncie and Cincinnati line, from Connersville to Muncie, forty-three miles. The section from Fort Wayne south to Bluffton is within two weeks of completion, and will be finished,—twenty-four miles.

The intermediate section, from Muncie to Bluffton, is in large part graded, the masonry, bridging and supply of ties are in great forwardness toward completion—forty-two, making a total of one hundred and nine miles. The cost of finishing this part of the line, including grading, bridging, masonry and supply of ties, will be about \$170,000, iron chairs, spikes and contingent expenses, \$330,000; total wanted \$500,000. This expenditure will complete the entire line, and can be done, if ample means are on hand, in three months.

This makes this line:

From Hamilton to Indianapolis, miles 98
From Connersville to Fort Wayne, miles 109

Total miles.....207

Made at a total cost of about \$8,000,000, opening through this connection with the two Michigan lines terminating at Fort Wayne, a direct connection for trade with Cincinnati of five hundred miles of new railroad territory. The great value and importance of this new line to the business interest of Cincinnati is but partially appreciated for the reason that but a few persons have examined and inquired into its prospects. Those who have informed

themselves appreciate the line very highly. The Company has now exhausted the financial means, and, to enable them to close up the unfinished gap of this road, must have assistance from interested parties. They have carried forward this great enterprise about to the point of completion, without ever having appealed to the business and property interests of Cincinnati which are to be so largely benefited by the connection with Fort Wayne and Michigan.

They now make a direct and earnest appeal to the citizens of Cincinnati to come forward at once and furnish the necessary means required to complete this work. They have issued bonds of \$1,000 each for the line (from Connersville to Fort Wayne, 109 miles.) bearing interest coupons half yearly, seven per cent. per annum, payable, principal and interest, in gold coin. These bonds are secured by a first mortgage on this line, guaranteed by the Junction Road Company, principal and interest. They will apply to the business men, manufacturers, bankers, real estate owners, and all interests to come forward at once and subscribe for such number of these bonds, at par, as will enable the company to put the road through this season, and enable the public and the owners of the road to realize its advantages.

Mr. Worthington said, in conclusion, that it was very important that help should be speedily given, to save the road from stoppage. A loss of a little time in a work of that kind would involve a great amount of expense. He was confident that if the necessary means could be obtained, the work would be put through without loss of time.

Mr. J. H. Sheldon, Superintendent of the road, was called on to state the condition of the work, and responded briefly. The material necessary for building the road between Muncie and Bluffton was all there, and all that remained to be done was the work of laying down about forty miles, which would fill up the gap. The whole line is over the old route of the Junction road, and a great portion of the earthwork was completed when that road was built, so that the amount of earthwork now required is much less than the original surface of the country would make necessary. Fully three-fourths of the work has been done in that way. The masonry of the bridges has been nearly completed, and the whole work remaining to be done could be readily finished within ninety days. There is one element of wealth along the line which will assist in its completion. That is the timber. It is there in large quantities, and there will be no difficulty in procuring it in sufficient quantity to build the road. Besides that, it will be a large resource as an article of transportation.

Mr. Sheldon said he wished that the business men of Cincinnati knew more of the Junction road from actual observation. Its importance is not appreciated. It has been growing very rapidly, and the effect it has had upon business here is not generally known. The matter of opening this line from Muncie is of great importance to the people up there in that region of country, and to the people of Cincinnati.

Mr. Sheldon again expressed his wish that the business community of Cincinnati would inspect this road themselves. He thought it would speak for itself.

Mr. James H. Frazier, who spoke next, said that the other day he paid a visit with Mr. Sheldon to Pittsburg, where they had consulted with the principal owners of the Grand Rapids road, and these gentlemen were

favorable to this road as an outlet for their business to the South, to Cincinnati, to Louisville, to Indianapolis, and to other points almost on the Ohio River. They said that when this road that is now being built is completed they will give it more freight than it can carry. But that is probably stretching it a little, for this road will make a desperate effort to carry all the freight they can get.

Judge Jewett, Mr. Scott, of the Pennsylvania Central Railroad, and Mr. McCullough, General Agent of the Pittsburg, Fort Wayne and Chicago road, spoke in the highest terms of this road, and they gave every assurance that, if this road is completed, they know they will be able to complete theirs; and they are pushing it as fast as possible. They gave their assurance that this road would be a perfect success when completed. It will be not only a perfect security for the bonds placed upon it, but it will be remunerative to the stockholders beside; for so sure as the road is completed, just so sure will it be a paying road. Mr. Frazier judged of this partly from the prosperity of the present Junction road, the road running from Hamilton to Indianapolis, and also the road from Hamilton to Newcastle, which has been in successful operation for a year or more, and has within the ninety days doubled its receipts. That old Junction road, which used to be considered beyond redemption, has now come out, and might be called a paying road. This road, when completed, will add to the income of that road, and the Junction road proper will add to the income of the Fort Wayne, Muncie and Cincinnati road—they working together, each for the interest of the other. Mr. Frazier thought that the object of the men who had inaugurated this road was, in great part, to advance the interests of Cincinnati. A great deal of money has already been spent, and the parties interested have not been as successful in selling the bonds as they expected. However, Mr. Worthington has the assurance of wealthy capitalists in Paris that when the road is completed, they will place the bonds, if they are not placed here. In two years from this time it is not likely that any person here holding these bonds will want to part with them to any Frenchman. In the present condition of the matter, they have come to a dead halt for the want of money, and the road can not be completed without outside assistance. The road can not be built unless the citizens of Cincinnati will come forward and give their assistance, not by a gift, but by buying some of these bonds, and getting value received for them.

Mr. N. Macneale said that although a manufacturer whose means were invested, to the fullest extent, in developing his own business, he yet could not help feeling an interest in such a project as this. As a manufacturer, he was looking out for new fields for selling what he produced, and seeking for trade. He more especially felt the importance of this road from the fact that within the last six months, a large portion of his business had been transacted in Michigan. Cincinnati needed to have a road just like this to tap the large and wealthy consolidations of roads running from East to West that have drawn off all the trade to New York, Baltimore and Boston. We can send our manufactures to Michigan and sell them a great deal cheaper than they can from the East when we once get a direct communication. For these reasons the people of Cincinnati should carefully consider this enterprise, and others like it, and do what they can for them.

Mr. Sheldon, in answer to inquiry, said

that the whole line of this road had less curvature than almost any road of its length. The extreme grade was thirty-two feet, a very moderate grade. These were items of considerable importance in the cost of transportation. It would cost as much to employ a locomotive to haul sixteen cars as forty or forty-five.

Mr. A. E. Chamberlain suggested that more than one-half of the potatoes and four-fifths of the apples used in Cincinnati are now brought from Michigan.

Mr. Worthington asserted this, and suggested, in addition, that there were large beds of gypsum crossing the lines marked on the map which had been furnished. There were indefinite quantities of gypsum there, and it would prove a valuable source of supply. A paragraph that appeared in the papers, recently, stated that there were eleven thousand car loads of gypsum shipped on the Grand Rapids road.

Mr. Joseph Butler said that he had no more interest in this matter than any other citizen of Cincinnati. It seemed to him that it ought to be entirely practicable in a city like this, with such a business population, to raise enough to relieve this enterprise. A large amount has already been spent in it. Its originators put their shoulders to the wheel, and they have completed two connections that are very important to Cincinnati. They propose to connect us directly by a road running four or five hundred miles north, with a new country, an almost undiscovered country, through the center of Michigan. He was aware that it was a difficult matter, in these times, or in any times, in Cincinnati, to get contributions to public enterprises. He had had some experience, heretofore, in trying to obtain them. Thousands and thousands of dollars have been spent in this enterprise, which now represents millions of dollars. They offer bonds secured by mortgage on the road, representing only \$16,500 per mile on its cost—a bond the interest and principal of which are both payable in coin. Mr. Butler thought they ought to be able to induce enough of the citizens of Cincinnati to take these bonds and place the gentlemen who are pushing this scheme in an independent position in building their road. All they ask is five hundred thousand dollars, and if that amount can be raised in sums of from one to five thousand dollars, it will, at all events, be only a temporary inconvenience, for there is no doubt that the company will be willing and able to repurchase them at the end of two years.

Mr. Worthington said that the company would rebuy the bonds in two years if the parties chose to sell them.

Mr. Butler thought it was certainly a case that appealed to the citizens of Cincinnati—to the manufacturing, mercantile and the wealthy interests of our city, and he was satisfied, from the little investigation he had made, that the investment was a perfectly safe one.

Mr. A. E. Chamberlain offered the following:

"Resolved, That in the opinion of this Board, the speedy completion of the Cincinnati, Muncie and Fort Wayne Railroad is of great interest to the merchants and manufacturers, real estate owners and all money interests in the city; and that the call of the company for assistance, by the way of the purchase of bonds of the company, should be promptly responded to by our citizens, according to their means and interests to be affected.

"Resolved, That the President be requested to appoint a committee of six persons, in or out of this Board, to go over the line of road to Fort Wayne and examine its condition, the country through which it passes, and the prospect of business and trade to pass over the line, the value of its connections, &c., and furnish a written report of their observation to this Board."

The resolutions were unanimously adopted, and the Board then adjourned.

In pursuance of instructions of a resolution passed by the Board of Trade, at a meeting held on the 19 inst, Messrs. William Hooper, Abner L. Frazer, E. W. Woodward, A. T. Goshorn, Adolph Wood and L. Heidelberg have been appointed a committee of six to examine the condition of the line of the Fort Wayne, Muncie and Cincinnati Railroad, the country through which it passes, the business and trade it is likely to command, and the value of its connections, &c. The committee will leave on Monday afternoon next, at 2:30 o'clock, and will make a written report of their observations to the Board of Trade.

Erie Railway.

The annual election of the Erie Railway Company was held to-day. At a meeting of the retiring Board of Directors of the Company the following resolution was passed:

Whereas, The Legislature of this State at its last session passed an act authorizing the Directors of this Corporation to classify themselves so as to hold offices for various terms

Resolved, That the propriety of such classification be submitted to the annual meeting of the stockholders of this Company, so that they may have an opportunity of determining its efficiency.

At a meeting of the stockholders of the Erie Railroad Company, held subsequently, it was

Resolved, That this Corporation hereby accepts the amendment to its charter made by an act of the Legislature of the State of New York, entitled "An act to amend Chapter 278 of the Laws of 1868, entitled an act in relation to the Erie, New York Central, Hudson River and Harlem Railroad Companies, passed May 20, 1869, being Chapter 916 of the Session Laws of 1869," whereby the Directors of this Corporation are authorized to classify themselves so that as nearly as may be one-fifth of their number shall go out of office at each annual election.

Resolved, That the Board of Directors this day elected be and are hereby required and directed to classify themselves in accordance with the act aforesaid.

At the meeting of stockholders about \$35,000,000 of stock was represented. Resolutions were passed approving the policy of the late Board in developing and improving the road, and in extending and perfecting its connections. The following directors were elected for 1869 and 1870: Jay Gould, Wm. M. Tweed, Alex. S. Diven, John Ganson, Horatio N. Otis, Abram Gould, Henry Thompson, Henry N. Smith, James Fisk, jr., Frederick A. Lane, Justin D. White, Orlo W. Chapman, Charles G. Sissen, Homer Ramsdell, John Hilton, M. R. Simons, and George C. Hill. At a subsequent meeting of the new Board, Mr. Jay Gould was unanimously re-elected President.

The Memphis, El Paso & Pacific Railroad.

GENERAL FREMONT IN PARIS—PLANS OF THE COMPANY—PROGRESS OF THE WORK.

The Memphis, El Paso & Pacific Railroad Company, of which Gen. Fremont is Vice-President, has issued a circular letter, addressed to the members of the Commercial Convention which assembled in Louisville this week. We gather from it the following particulars: This road is 813 miles long between El Paso on the Rio Grande and Texarkanna on the Texan boundary. The company now building the road was chartered by the Legislature of Texas in 1856. The State of Texas made the company a grant of public lands amounting to 10,240 acres per mile, 8,325,120 acres in all. When the war broke out over \$1,000,000 had been expended in grading 65 miles of the route. Nothing more was done until 1867, when the company was reorganized. Shortly after this, Gen. Fremont, Vice-President of the company, and Chairman of its Executive Committee, opened negotiations in France for the sale of the company's securities, and succeeded in placing upon the Paris Bourse, at satisfactory rates, \$10,000,000 of its first mortgage 20 years 6 per cent. land grant bonds, payable, principal and interest, in gold, and secured by deeds of trust to Govs. Curtin and Pollock of Pennsylvania, and Messrs. Forbes and Swenson of New York, upon the company's lands for the first 300 miles of the road, from Jefferson to Palo Pinto, amounting to nearly 3,000,000 acres. With the proceeds from the sale of the bonds, the company is now building the first 150 miles of its road from Jefferson to Paris, under the direction of Major J. M. Daniel, the engineer-in-chief. The earthwork for 80 miles of this section is ready for receiving the rails, two cargoes of which are now on their way from Antwerp to New Orleans, to be followed by monthly shipments of 1,500 to 2,000 tons. These rails are manufactured under the supervision of Mr. Emmanuel Lissignol, the Company's engineer, resident in Paris, by the iron works of Mauberge in France, and weigh 73 pounds to the lineal yard. Several locomotives are being also constructed in France under Mr. Lissignol's care, and are soon to be shipped with other rolling stock. The Paterson iron works, in New Jersey, are likewise turning out, under the supervision of engineer W. R. Berghioz, locomotives for the company, while the Springfield car works of Massachusetts are building cars, etc. It is designed to have the first section of the road in operation from Jefferson to Paris by the 1st of March next, and to place the second section under contract forthwith. Gen. Fremont is now in Paris, and has been there since July last, on the financial business of the road. He has met with much opposition to his negotiations from rival interests, but he has triumphed over all the enemies of the enterprise. He has done what never has been done before. He has been able to induce the Imperial Government to admit to the Paris Bourse an American railroad security, where he has sold it in open market, at a price almost equal to that of United States bonds! It is the purpose of the Company to build and equip this road from Jefferson to El Paso, upon its own securities, and, if they are not sufficient, to call upon the State of Texas to grant it further aid, as the work progresses. It is the purpose of the Memphis, El Paso & Pacific Railroad Company to prosecute its existing applications to Congress, next Winter,

for Legislation, to enable it to carry out, as far as Congress can grant authority, and aid in the premises, its grand design of completing the Southern Transcontinental Railroad, and opening up a direct communication by rail across the continent, between San Diego and Norfolk, the chief objective points.

Speech of General Walbridge on 'Change.

Previous to the adjournment of the Merchants' Exchange Oct. 20th, the President introduced to the members General Hiram Walbridge, of New York, Chairman of the Government Commission appointed to inspect the Pacific Railroad, and a delegate to the Commercial Convention held at Louisville last week, and solicited for him a hearing. General Walbridge, in referring to the proceedings of the convention, said that it was the only convention that had been held since the extirpation of slavery in which delegates were to be found from all the States. Many commercial conventions had been held in the North since the close of the war, but they had all been sectional in their character, but in the one held at Louisville men from all sections met to devise means for the building up of the South.

The prosperity of the United States was contingent upon the exertions of the merchants, the manufacturers and the agriculturists of the country, and they should take the control of the Government out of the hands of the politicians into their own. The prosperity of the country also depended upon the harmony of action between the people of all sections. Without unity, but few important works of national character could be carried out.

He reminded his audience that the first railroad built in the United States was laid in South Carolina, and that it stopped there. The telegraph was first organized in the Southern States, but the Southern people alone could not make it a success, because they had not the association necessary to carry out great enterprises.

The extirpation of slavery from the body politic had made this the home of genius and of a national people. The terrible struggle through which we had passed was the result of a conflict between two civilizations, and no Southern man was responsible for it.

It was a contest between one system recognizing free labor, free speech, and the rights of individuals to associate in great enterprises, and another that desired only to be let alone. He thanked God that although it cost fifty thousand lives and three thousand millions of treasure, the false system of the South had been crushed. We had extirpated the only refractory element from the body politic, and done it more cheaply than the like was ever done by any other nation. Our advance in commerce ought now to be rapid.

The General predicted that the great city of the world is to be founded in the Mississippi Valley. Whether that city should be Cincinnati, or Louisville, or St. Louis, or Chicago, depended upon the manner in which the business men of those four cities improved their opportunities. All of them were making rapid strides in the matter of railroad extensions. He complimented Cincinnati upon her enterprise in projecting a railroad to Chattanooga, and hoped the road would be a success, and assured his audience that New York did not think hard of the Queen City because she was attempting to build her own line of railway to the Atlantic Coast; for every road built in the United States was a

benefit to the metropolis. Great reforms were needed in our railroad management.

The extensive corporations controlled our State Legislatures to too great an extent, and if a change were not made in this matter, the interests of the country would demand that the railroad should be nationalized as the telegraph is at the present day.

There was one sentiment expressed by the Louisville Convention which the General said he trusted would reach all hearts, and that was, that the national debt should be paid to the last dollar. This sentiment met the approval of every one present.

The General concluded by paying a high tribute to the ability and integrity of President Grant and his Cabinet, especially commending the action of the Secretary of the Treasury in the recent gold panic in New York.—*Commercial*.

GOOD RAILROAD POLICY.—Steadily, and against all adverse influence, the column of Southward immigration is moving onwards. The Swiss colony in Tennessee, under the auspices of such men as Consul General Hitz; the Pennsylvania colony in North Carolina, under the auspices of Heck and Hawkins; the Hollanders in Virginia, are all doing well; and now we learn that Hiram Barney, of New York, has planted a colony of Belgians along the line of the Selma, Rome and Dalton Railroad, in Alabama, by giving away a large quantity of land to them. This is the true course. The *Montgomery* (Ala.) *Mail* calls on the President of the Chattanooga & Alabama road, Mr. Stanton, to do likewise. We have repeatedly urged this course upon the great landowners of Virginia and other Southern States. The railroad companies are generally wide-awake, and will not need much urging to favor a policy which is so clearly that of self-preservation. The people of the South are slow to move, but they are starting at last.

That is what is wanted, cheap lands and a certainty that they can get them, will induce emigration; both from the North and Europe.

LAYING IRON ON THE SOUTH HAVEN RAILROAD.—The work of laying the track on the South Haven R. R. began in earnest the middle of last week. There was no grand celebration to inaugurate the laying of the first rail. The President and other officers of the road, together with a few of its friends came together at the spot selected for the purpose, and several of the gentlemen present bore a hand at the sledge in driving home the spikes that were to hold the first rail of this most important road in position. No speech making was indulged in. The President, James A. Walter, gave notice, however, that at the completion of the enterprise a grand celebration would be had in honor of the event.

A large gang of hands, working with might and main, are engaged in track laying. Twenty miles of this road are to be completed by the first of January, 1870. So say those in authority.—*Kalamazoo Gazette*.

—The following shows the shipments of Pittston coal by the Pennsylvania Coal Company during the week ending October 3, 1869: By railway, 15,020 tons; previously, 739,760; by canal, previously, 13,658. Total, 1869, 769,447; to same date, 1868, 736,875. Increase, 1869, 32,572.

Ohio Railroads.

A Columbus correspondent of the *Commercial* furnishes the following statistics relating to the principal railroads centering at Cincinnati which are taken from the reports of the respective railroad companies to the Commissioner of Railroads and Telegraphs, for the year ending June 30, 1869.

LITTLE MIAMI RAILROAD AND BRANCHES.

Amount of capital stock.....	\$5,358,600 00
Amount of funded debt.....	2,543,000 00
Cost of road and equipments up to date.....	7,786,469 10
Cost per mile.....	39,625 80
Length of road, single track, main line and branches.....	196½
Length of sidings.....	35

Total length of iron..... 231½

New bridges built during the year..... 4

Aggregate length of same, in feet.....455

The equipment of the road consists of 47 locomotives, 38 passenger cars, 20 express and baggage cars, and 710 freight cars.

Number of persons employed in operating the road, 1,060.

Iron laid during the year, (re-rolled,) 31½ miles.

Total number of miles run by all trains during the year, 10,088,248.

Number of passengers carried, 467,538.

Number of tons of through and local freight carried, 451,042.

Total earnings from all sources \$1,680,316 54

Total operating expenses 1,118,018 79

Net earnings \$562,297 75

Dividends paid—rate per cent., 6½, amount..... \$330,554 47

Interest paid..... 111,452 45

Expenses for new equipment... 14,260 09

Accidents to persons—

Total killed; employees, 1; others 1.....2

Total injured (employee).....1

MARIETTA AND CINCINNATI RAILROAD COMPANY.

Capital stock (all paid in).....\$14,620,865 92

Funded and floating debts.... 7,256,996 50

Cost of road and equipment up to date..... 19,655,013 69

Cost per mile..... 71,077 00

Miles.

Length of road, main track and branches 276 8

Length of sidings and other tracks..... 36.9

Total length of iron.....313 7

New bridges built during year..... 2

Aggregate length of same in feet.....265

The equipment of the road consists of 52 locomotives, 23 passenger cars, 13 express and baggage cars, 589 freight cars, and 36 other cars.

Number of persons employed in operating the road, 1,756.

Iron laid during the year, new 18 miles, re-rolled 15 miles; total, 33 miles.

Total number of miles run by all trains, 1,287,000

Number of passengers of all classes carried in cars, 324,176.

Number of tons of through and way freight carried, 357,076.

Total earnings for the year.....\$1,350,719 76

Total operating expenses..... 1,251,181 80

Net earnings..... \$98,537 96

Interest paid..... \$64,786 82

Expended for new equipment... 69,876 26

Accidents to persons—

Total number killed (employees 9, others 4)13

Total injured, employees.....12

CINCINNATI, HAMILTON AND DAYTON RAILROAD.

Capital stock (all paid in).....\$3,500,000 00

Funded and floating debts 2,358,050 00

Cost of road and equipments... 5,297,260 14

Cost per mile 88,287 67

Miles.

Length of road: Single track..... 60

Double track..... 12 15

Sidings..... 17

89.15

Of the above, 87 miles are double gauge, making total length of iron.....176.15

Equipments: 33 locomotives, 31 passenger cars, 13 express and baggage cars, 439 freight cars and 43 other cars.

Total number of persons employed in operating the road, 693.

Iron and steel rail laid (new iron rail 4 miles, steel rail 1 mile, re rolled iron 4½ miles) 9½ miles.

Total number of miles run by all trains, 512,839.

Total number of passengers carried, 636,158.

Total number of tons of through and way freight carried, 488,852.

Total earnings for the year.....\$1,198,846 62

Total operating expenses 777,496 68

Net earnings..... \$421,349 94

Dividends paid, rate per cent. 10, and amount (in scrip, redeemable in bonds).....\$350,000 00

Interest paid..... 168,855 29

Accidents to persons—

Total killed: Employees, 3; others, 2..... 5

Total injured: Passengers, 3; employees, 6; others, 1.....10

CINCINNATI AND INDIANAPOLIS RAILROAD.

(Operated by Indianapolis, Cincinnati and Lafayette Railroad Company)

Capital stock (\$500,000 paid in, and \$1,500,000 unpaid)\$2,000,000 00

Debt (all funded)..... 2,000,000 00

Cost of road and equipment... 1,894,477 60

Cost per mile..... 92,413 54

Miles.

Length of road—

Main line.....20.5

Branch..... 6 7

Sidings..... 6.2

Total33.4

Number of persons employed in operating the road, estimated at 290.

New iron laid during the year, 1½ mile.

Total number of miles run by trains, 153,550.

Total number of passengers carried, 200,000.

Total number of tons of through and way freight carried, 310,000.

Total earnings for the year.....\$233,566 80

Total operating expenses..... 125,633 90

Net earnings.....\$107,932 90

Dividends paid, rate 10 per cent\$50,000 00

Interest paid..... 52,186 68

Accidents to persons—

Total killed3

Total injured (employees 2, others 2)4

OHIO AND MISSISSIPPI RAILROAD.

Capital stock.....\$23,500,000 00

Proportion for Ohio (pro rated according to miles of road in the State..... 1,349,867 00

Debt (funded and floating)... 5,690,210 62

Proportion of same for Ohio... 326,852 32

Cost of the road, &c., not given.	
	Miles.
Length of road, entire line.	340
Length in Ohio—	
Main line.....	19.53
Sidings.....	10.30
Double gauge.....	.52
Total length of iron in Ohio.....	30.35
One new bridge was built, 630 feet in length.	
Equipment: 85 locomotives, 36 passenger cars, 20 express and baggage cars, 980 freight cars, and 245 other cars.	
The number of persons employed in operating the road in Ohio is estimated at 146.	
Total number of miles run by all trains.....	14,458,227
Total number of passengers carried.....	536,748
Total number of tons of freight carried, through and way.....	435,783
Total earnings for the year.....	\$2,855,151 77
Total operating expenses.....	1,978,523 75
Net earnings.....	\$876,628 02
Proportion of earnings for Ohio.....	164,003 18
Proportion of expenses for Ohio.....	113,648 77
Proportion of net earnings for Ohio.....	50,354 41
Accidents to persons—	
Total killed (employees, 2; others, 2).....	4
Total injured.....	1

The Iron Trade.

The following paragraph presents a new and curious phase of the iron trade:

PRUSSIAN IRON FOR ENGLISH USE.

The *Rhine and Ruhr Gazette*, published at Duisburg, announced on the 27th August that a firm in Siegen had signed a contract to supply 500 wagons per month of the best iron ore of that district to ironmasters in England. The ore is to be forwarded by rail to Duisburg, and thence by water to Rotterdam. The English smelting furnaces will therefore receive from the present time forward a considerable contingent of Prussian iron.

Yet, notwithstanding, this necessity for importing their ores from foreign countries, the English iron masters find no difficulty in sending to this iron country the products of their furnaces and factories. The true solution of the matter is undoubtedly to be found in the increased cost of labor in this country, which is, of necessity, so important an item in all manufacturing. Although the following has reference to the price of labor in Paris, yet it is an index to the condition and compensation of labor throughout Europe. To settle the question of tariffs, the American Laborer needs no other comment. What is true of one branch of industry, is also applicable to others:

LABOR ABROAD.

The working men of Paris are now making great complaints in reference to the further heavy reductions in wages. Three years ago the stone cutters and sawyers were paid 85 cents a day, which rate, at the beginning of 1869 was reduced to 70 cents, and is now to be reduced to 55 cents.

Railroad Items.

—A new process of making foundations for bridges in marshy soils has been recently used on a branch line of the Charentes Railway Company in France. This line crosses a peat valley to the junction of two small rivers; the thickness of peat, was so great that any attempt to reach the solid ground would have been very expensive. In order to obtain cheaply a good support for the bridge, two large masses of ballast accurately rammed were made on each bank of the river, and a third one on the peninsula between the two. The slopes of these heaps were pitched with dry stones, for preventing the sand from being washed away by the rain or by the floods in the rivers. Over the ballast a timber platform is laid; this platform carries the girders of the bridge which has two spans of about 60 feet each. When some sinking down takes place, the girders are easily kept to the proper level by packing the ballast under the timber platform; this packing is made by the plate layers with their ordinary tools. This simple and cheap process has succeeded quite well.

—At the annual election for officers of the Cincinnati, Sandusky and Cleveland Railroad, held at Sandusky, Ohio, the following named gentlemen were elected Directors. Rush R. Sloan, of Sandusky, for three years; Jacob W. Pierce, of Boston, three years; Elisha C. Litchfield, of New York, three years; John S. Farlow, of Boston, two years; Israel M. Spelman, of Boston, two years; George J. Anderson, of Sandusky, two years; William Wilshire, of Cincinnati, one year; William G. Lane, of Sandusky, one year; James D. Chamberlin, of Sandusky, one year. The newly elected Board subsequently organized by the choice of Rush R. Sloan as President, and L. H. Latham as Secretary and Treasurer.

—The following is a list of the principal officers of the Erie Railway Company for 1869 and 1870: Jay Gould, President and Treasurer; James Fisk, jr., Vice President; H. N. Otis, Secretary; L. D. Rucker, General Superintendent; B. W. Blanchard, General Freight Agent; Wm. R. Barr, General Passenger Agent. The report that the Company have leased the Albany and Susquehanna Railroad is premature. It is understood, however, that negotiations are now in progress, and that the Erie Railway will have possession of the road at no distant day.

—The stockholders of the Western Division of the Western North Carolina Railroad have elected the following officers: Gen. M. S. Littlefield, President; G. M. Roberts, Secretary and Treasurer; and J. C. Turner, Chief Engineer. A new Board of Directors was chosen as follows: G. W. Swepson, Gen. T. L. Clingman, the Hon. J. C. Abbott, W. W. Rollins, R. M. Henry, Geo. Gahagan, G. W. Dickey, J. R. Ammonds, Gen. M. S. Littlefield, A. T. Davidson, Joe. Keener, the Hon. A. H. Jones.

—E. B. Edwards, of Greenville, has given three acres for depot grounds to the Ionia & Lansing Railroad, and the right of way for a mile through his land.

—The Cincinnati & Indianapolis Junction Railroad now receives passengers and freight from Cincinnati to Muncie, Ind.

Railroad Earnings.

—The earnings of the Chicago and Alton road for the first week in October were:

1869.....	\$109,891 06
1868.....	107,652 43

Increase..... \$2,238 63

—The earnings of the Union Pacific Railroad for September were \$762,177 43. The total earnings since the opening in May are over \$3,000,000

—The earnings of the Cleveland, Columbus, Cincinnati and Indianapolis Railway for September were:

1868.....	\$287,451
1869.....	320,025

Increase..... \$32,574

—The earnings of the Milwaukee and St. Paul Railroad for the first week in October were:

1868.....	\$274,005
1869.....	266,900

Decrease..... 67,105

—The earnings of the Chicago, Rock Island and Pacific Railroad for the first week in October were:

1869.....	\$148,900
1868.....	\$142,905

Increase..... \$5,995

PITTSBURG, CINCINNATI & ST. LOUIS RAILROAD.—ANNUAL REPORT.—From the annual report of the Pittsburg, Cincinnati & St. Louis Railway Company for the year ending June 30, 1869, we glean the following items:

The total length of the main line and branches is 201 miles. The length of main track in Ohio is 117 miles. Total length of iron in Ohio, including branches, side tracks, &c., 139 miles. Their statement only applies to the road between the Ohio river at Steubenville and Newark. The 33 miles of road between that place and Columbus are owned jointly by the Pittsburgh, Cincinnati & St. Louis Company and the Central Ohio Company. There are on the road 31 wooden bridges, with an aggregate length of 1,165 feet. During the year ending June 30th, there were built one wooden bridge 157 feet in length; one stone bridge, 130 feet in length, and one 98 feet in length. There are on the road 77 locomotives, 31 passenger, 16 express and baggage cars, 1,239 freight cars, and 39 other cars. There were carried during the year 402,956 passengers, 386,961 tons of through freight, and 402,799 tons of local freight. There were consumed during the year 6,240 cords of wood and 40,445 tons of coal.

The earnings for the year from transportation of passengers amount to \$621,916 27; transportation of freight, \$1,690,331 84; mail and express, \$94,312 98. From all other sources, \$27,490 12. Total earnings, \$2,434,101 21. The expenses of the year for maintenance of way and structures amount to \$508,440 21; motive power and cars, \$630,497; transportation expenses, \$673,232 91; general expenses, \$88,446 57. Total expenses, \$1,900,616 69. Net earnings, \$533,484 52.

—Eighty tons of iron have been shipped from New York for the Ionia and Lansing Railroad.

SUBSTITUTE FOR TRACING PAPER.—A happy thought suggested itself to an engineer in want of tracing paper and unable to procure it readily, to try petroleum. To his surprise he found the experiment extremely satisfactory, and by coating the paper with the petroleum and pressing it between blotters to extract the excess of oil, he obtained a paper in a few minutes, which was superior to anything that could be found elsewhere, taking as readily as ordinary paper any marks with writing ink, Indian ink or colors.

—Flint has voted \$45,000 to the Port Huron and Lake Michigan Railroad by a majority of 400.

A CARD.

A Clergyman, while residing in South America as a missionary, discovered a safe and simple remedy for the cure of Nervous Weakness, Early Decay, Diseases of the Urinary and Seminal Organs, and the whole train of disorders brought on by baneful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope, to any one who needs it, *Free of Charge.*

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NEW YORK CITY.

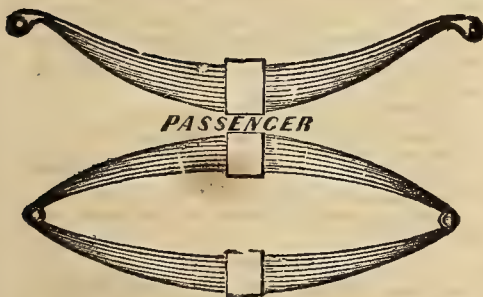
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Chester Griswold.

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NEW YORK, BOSTON,

Providence, Albany,

PITTSBURG, HARRISBURG

Philadelphia, Baltimore,

And Principal Points in

NEW YORK, NEW ENGLAND

—AND—

Pennsylvania.

This Railway extends from

CINCINNATI to NEW YORK, - 860 Miles.

CLEVELAND to NEW YORK, - 625 Miles.

DUNKIRK to NEW YORK, - 460 Miles.

BUFFALO to NEW YORK, - 423 Miles.

ROCHESTER to NEW YORK, - 385 Miles.

AND IS FROM

22 to 27 MILES the SHORTER ROUTE.

TWO EXPRESS TRAINS DAILY

Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS,

(Sundays excepted.) Arrive Dayton 9.10 A.

M.; Urbana, 10.28 A. M.; Galion, 1.00 P. M.;

Mansfield, 1.42 P. M.; West Salem, 2.49 P.

M. (Dine). (Sleeping Coaches through to

New York); Akron, 4.25 P. M.; Ravenna,

5.10 P. M.; Meadville, 7.55 P. M. (Supper);

Susquehanna, 7.55 A. M. (Breakfast); Tur-

ner's, 1.22 P. M. (Dine); New York, 3.00 P.

M. Connects at Ravenna with Cleveland &

Pittsburg Railroad for Hudson and Cleve-

land; at Elmira for Williamsport and the

South; at Binghamton for Cooperstown,

Albany and the celebrated summer resort,

Sharon Springs, and at New York with

afternoon trains and steamers for Boston and

New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana,

1.25 A. M.; Galion, 4.00 A. M.; Mansfield,

4.44 A. M.; West Salem, 5.55 A. M. (Bkfst);

Akron, 7.33 A. M.; Ravenna, 8.20 A. M.;

Meadville, 11.16 A. M. (Dine); Hornells-

ville, 6.19 P. M. (Supper); New York, 6.30

A. M. Connects at Mansfield with Pittsburg,

Ft. Wayne & Chicago Railway for Pittsburg,

Harrisburg, Philadelphia, &c.; at Meadville

with Franklin Branch for Oil City; at

Elmira with Northern Central Railway for

Harrisburg and the South, and at N. Y. with

morning trains for Boston and N. England

cities.

New and Improved Coaches of the style peculiar to the

Broad Gauge, arranged for both Day and Night Travel,

are attached to this train at Cincinnati and run through to

New York, forming the **Only Line** running through

860 Miles without Change.

Boston and New England Passengers,

with their Baggage, are transferred FREE

OF CHARGE in New York.

IF The Erie Railway Company has opened a new

Ferry from their Jersey City Depot to the foot of Twenty-

third Street New York, thus enabling passengers to reach

the upper portion of the city without the expense and an-

noyance of a street car or omnibus transfer.

IF The scenery along the entire route of the Erie

Railway is of the most picturesque and beautiful character.

Admirers of Nature's beauties, in a daylight journey over

this Line, will find in its ever changing landscapes sub-

jects of continual admiration and interest

Baggage Check'd Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY,

Which can be obtained at the Company's Offices in Cin-

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WM. R. BARR,
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59 Miles in Distance Saved.

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NEW YORK, and
BOSTON,

WITH THE PRIVILEGE OF GOING TO

WASHINGTON

FREE!

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J. L. WILSON, Master of Transportation.
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Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City	7 00 A. M.	9 20 P. M.
Toledo & Detroit	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail	7 00 A. M.	5 25 P. M.
Richmond & Chicago	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada	6 00 P. M.	10 30 A. M.
Hamilton Accommodation		6 45 A. M.
Richmond & Chicago	7 00 P. M.	9 20 A. M.
Hamilton Accommodation	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Bureau Office, corner Vine and Baker streets, and at the respective depots. East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.

JANUARY 5th, 1868.

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Central Railroad.

RAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymr Acc
Leave CINCINNATI	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 30 p.m.	2 10 "	
Arrive VINCENT	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O'H.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine
Street, Corner Front and Broadway; and at Depot, Foot
Mill Street.C. E. FOLLET Gen. Passenger Agent
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Best Route to St. Louis and Chicago

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Great Through Passenger Route from CINCINNATI to

ST. LOUIS,
CAIRO,
CHICAGO,Memphis, New Orleans, Springfield, Quincy
Keokuk, St. Joseph, Des Moines, OmahaAnd all Rail and River Towns and Cities in the West,
North west and South-west.ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS
WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail	6 30 am	12 20 am
St. Louis and Springfield Express	3 35 pm	8 20 pm
St. Louis and Springfield Express	10 35 pm	3 30 pm
Lawrenceburg Accommodation	10 00 pm	2 35 pm
Lawrenceburg Accommodation	4 45 pm	8 05 pm

*The 10.35 pm. train will leave Sundays, but not on Saturdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail	7 00 am	10 00 am
Chicago Express	6 30 pm	9 30 pm
Harrison Accommodation	6 10 pm	6 40 am

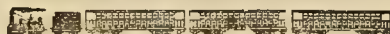
Through Tickets can be obtained at the Burnet House
Office, corner of Third and Vine; River Office, corner of
Walnut Street and River; and at Depot, corner of Plum
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I. & C. Railroad is about a mile nearer the business center
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in a few squares of the Postoffice and principal hotels and
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A. E. CLARK, General Ticket Agent.Philadelphia, Wilmington & Baltimore
RAILROAD!

FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

4.15 (Express Monday excepted); 8.15 A. M.; 11.45 A. M.
(Express); 2.30 P. M.; 11.30 P. M. night.
On Sundays, 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West, 7.35 A. M.; 9.20
A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
P. M. (Express)
SUNDAY TRAINS—Leave Philadelphia for Baltimore
at Washington at 4.15 A. M., and 11.00 P. M. Leave all
time for Philadelphia at 8.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave
Wilmington for Philadelphia at 8.30 P. M.

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port produce and merchandise between Cincinnati and
Pittsburg, Philadelphia, Baltimore, New York or Boston,
and all Eastern points with the greatest promptitude and
dispatch.For Rates, Bills of Lading, or any information desired,
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No. 27 West Third Street, Cincinnati,
W. P. SHINN, General Freight Agent.
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SHORT-LINE RAILROAD.

Time only 5 hours

Fare Only \$3.50—Transfer from Hotel or
Residence to Depot, in Covington, Free.THE SHORTEST ALL-RAIL ROUTE TO
Louisville, Nashville, Memphis, New
Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail	7:00 A. M.	2:30 P. M.
Evening Express	5:45 P. M.	9:00 P. M.
Walton Accommodation	4:00 P. M.	9:30 A. M.

The 7:00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
the Walton Accommodation, offer great inducements to the
citizens of Cincinnati and Covington who wish to pur-
chase country residences or small farms for gardening.
This train leaves late in the afternoon, and arrives early
next morning, giving all day to attend to business. For
further information as to routes, low fare, &c., please apply
at No. 1 Burnet House, or Depot, Covington, Ky.

SAM'L GILL, Gen'l Supt. Louisville.

CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Lib-
erty st., connects at Hampton Junction with the Dela-
ware, Lackawanna, and Western Railroad, and at Easton
with the Lehigh Valley Railroad, and its connections,
forming a direct line to Pittsburg and the West, without
change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago,
Cincinnati, St. Louis, etc., with but one change of cars.
Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as
follows:6:55 a. m.—For Easton, Bethlehem, Mauch Chunk,
Williamsport, Wilkesbarre, Mahoney City, Tuckahoe,
&c.
7:15 a. m.—For Somerville.
8:30 a. m.—For Flemington, Junction, Stroudsburg,
Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.
12 m.—For Flemington, Easton, Allentown, Mauch
Chunk, Wilkesbarre, Reading, Columbia, Lancaster,
Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.
3:30 p. m.—For Easton, Allentown, Mauch Chunk
and Belvidere.
4:30 p. m.—For Somerville.
5:25 p. m.—For Somerville and Flemington.
6 p. m.—For Easton and intermediate stations.
7 p. m.—For Somerville.
7:20 p. m.—EMIGRANT—Stopping only at the principal
stations.
9:00 p. m.—For Plainfield.
11:50 p. m.—For Plainfield, on Wednesdays and
Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays.)
for Easton, Allentown, Harrisburg, and the West without
change of cars to Cincinnati or Chicago, and but one
change to St. Louis. Connects at Harrisburg for Erie
and the Oil Regions. Connects at Junction for Stroudsburg,
Water Gap, Scranton, &c. Connects at Phillipsburg for
Mauch Chunk, Wilkesbarre, &c.5 p. m.—CINCINNATI EXPRESS, daily (except Satur-
days) for Easton, Bethlehem, Allentown, Reading, Harris-
burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars
to Pittsburg and Chicago. Connects at Junction with
Delaware, Lackawanna and Western Railroad for all sta-
tions to Scranton. This train will be run to Easton on
Saturdays as a local train, stopping at principal stations.8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,
Allentown, Reading, Harrisburg, Pittsburg, and the West
—connects at Harrisburg with train for Williamsport, Erie,
&c.Sleeping cars through from Jersey City to Pittsburg
every evening.Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15
8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:00, 2:00
3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25,
7:00, 7:20, 7:40, 8, 8:00, 9:00, 9:40, 10:45, 11:50 p. m.Tickets for the West can be obtained at the office of the
Central Railroad of New Jersey, foot of Liberty st., N. Y.;
at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at
No. 10 Greenwich st., and at the principal hotels.R. E. RICKER, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON, - - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, NOVEMBER 4, 1869.

The Railroad Record,

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“ “ per month.....	40 00
“ “ six months.....	135 00
“ “ per annum.....	210 00

Cards not exceeding four lines. \$7 00 per annum.

WRIGHTSON & CO., Prop'r's.

The Financial Condition of the Country.

We have arrived at a period now when the financial condition of the country is clearly defined, and when we see both the policy adopted and the effects likely to follow that policy. Up to the advent of Grant's administration, the country really had no financial policy; that is, since the war. Whether the state of the country would not prevent it, or whether it was the deliberate purpose of Johnson's administration, certain it is, that the financial course of that administration was vacillating, uncertain, and guided by no fixed principle. So that it closed its course, leaving no clear impression on the commercial mind of the country, whether one or another course would be pursued. Mr. McCULLOUGH began his work as Secretary of the Treasury, with the idea of contracting the currency. In the course of three months, he contracted to the extent of over fifty millions of dollars. Although there was four hundred millions of greenbacks and immense amounts of compound interest notes, which in bank answered exactly the same purpose, yet the contraction to the extent of 10 per cent. of greenbacks was felt so severely, that a commercial panic was threatened. The Secretary stopped in his course and Congress interfered. The result was, that no further reduction of greenbacks was made; but the exchange of compound interest notes and of 7 3-10th bonds went on, so that this class of securities gradually disappeared, and 6 per cent. bonds increased. Practically, this exchange has produced an effect on the currency which the public mind has not at once comprehended. By reducing that class of short securities,

which answered the purpose of making up an amount required by law to be kept on hand as a redemption for *National Bank notes*, the amount of other funds, and especially of greenbacks, had to be greater. The result of this is, that the National Banks hold an immense amount of greenbacks, and they are withdrawn from general circulation. This is one reason why the clique and rings of great capitalists and railroad men can, by withdrawing a few millions from circulation, cause a panic in the money market. So closed McCULLOUGH's administration of the Treasury, having scarcely diminished the debt, at least in its last two years, having done nothing to appreciate the value of bonds, leaving the currency much as it was, and having proposed no definite policy for the future. It was very evident that the nation reached the 4th of March, 1869, much disgusted with the performance of the Treasury Department, and with a good deal of faintheartedness, as to what was to be our financial future. There had been also, in the meantime, something which was morally disastrous. There was a defect and a deficiency in the collections of the Internal Revenue, which argued a moral delinquency in public offices. Those who are apt to charge dishonesty upon public men charged it with double force upon the collectors of the revenue, and from what has since transpired, it seems, in many cases, with truth. Under these circumstances, it is very evident the new administration would come in under some disadvantages. There was also another thing, which made difficulties, through political heresies. It was and is unquestionably a fact, that the greenback currency was the most popular the country ever had; for it was perfectly sound, uniform and convenient. Hence arose the idea, that it would be a good thing to increase it, and even to pay the 6 per cent. bonds with it. Many republicans embraced this idea, and the democratic party in the West, finding it popular, adopted it as a part of their political creed. Fortunately, as we think, this particular issue could not be made, and the democratic party was defeated on general policy; partly, no doubt, by the fact, that paying the bonds in greenbacks would not, in the opinion of civilized mankind, be honest. Thus, both the circumstances of the Treasury, and the political theories of many, offered very serious embarrassments to the incoming administration. Congress, however, in order to fix a principle, cleared the way for a better state of things, by passing an Act to *strengthen the public credit*. They declared to the world that Congress, as the representatives of the American people, *meant to be honest*. If any dishonesty was to come, it must come by a direct action of the people, in opposition to the declared purpose of Congress. *This action could not be had*. The efforts of demagogues to cause a popular reversal of the Act of Congress has failed, and it

is now palpable that *honesty* must be the future policy of the government. It is not probable that any further political effort against the policy of this administration will be made; so that the whole country sees *that there is a fixed policy, and that it will be maintained*.

Before we describe this policy, let us see the great financial difficulties presented to the administration:

1. The steady payment of public liabilities of all kinds, including the ultimate payment of greenbacks in gold, involves a gradual reduction of prices, a constant narrowing of margins, and a curtailment of all speculations, except that in gold, which, till return of specie payments, can not be avoided. Now, it is plain to all minds, that to commercial people, this is disagreeable. The desire of most traders is to do just the contrary; for if prices are rising, any body can make money. This policy then of paying and returning to gold, was, and is necessarily unpopular. This was one great difficulty in the way.

2. There was naturally a popular dislike to what demagogues are pleased to call "bloated bondholders;" and as the first operation of the Act "to Strengthen the Public Credit," was to strengthen and carry up the bonds, it was immediately used as a cry against the bondholders, whom the government means to honestly pay in full.

3. To pay the public debt out of a surplus revenue, means to *keep up sufficient taxes*, direct and indirect to do it; and this too is, at first sight, an unpopular idea.

Thus, we see the administration, and we especially mean Mr. BOWWELL, had to encounter great difficulties at first; but we say only what all must admit, when we say, that it has not only overcome these difficulties, but has succeeded in establishing a sound and honest policy, much better and more successfully than could have been anticipated.

What is the policy of the administration, and what has it done?

1. The first and elementary part of the policy of the administration is contained in the Act of Congress to *Strengthen the Public Credit*; that is, the public credit must be maintained, and all the debts of the country, sooner or later, paid in gold.

2. To *pay off the whole debt* of the country as soon as it can be conveniently done out of the surplus revenue of the country.

3. To *keep up the tariff and the internal revenue* as long as it is necessary for that purpose.

4. To *reduce the interest on the debt* as much as possible, by exchanging the bonds for those of lower interest.

5. Lastly, as an inevitable conclusion from these premises, to *arrive at specie payments* as soon as possible.

This the reader sees is undeniably a fixed policy. It is no vacillating, uncertain course. The merchants and manufacturers

may depend upon its stability, unless the demagogues are permitted to make it uncertain, by their attacks on the credit and prosperity of the nation.

Now we ask what has been done?

1. From March to November, *eight months*, the public debt has been reduced *sixty four millions of dollars*. At this rate, on the 1st of March next, the public debt will be reduced more than *ninety millions of dollars*. That will be a reduction of over four millions in interest per annum. If the administration goes on in this policy, and the people are patient, no less than *five hundred millions* of the public debt will be paid in four years of Grant's administration; and in ten years more the whole may be paid.

2. On the 2nd of November the price of gold was reduced to 27½, and with a steady sale of gold by the government, and an increase of our exports, (which will inevitably grow from our large crops,) it must go considerably lower than that. At this rate (27½) the six per cent. bonds, selling at 1.15 are worth 90 in gold. That is, the bonds are within 10 per cent. of the gold par.

3. Under an honest collection of the revenue, the internal revenue has greatly increased, so that the reduction of the debt will go on, and the price of gold be reduced.

This being the state of facts, we think that nothing better can be desired, and that the country is to be congratulated upon having arrived at a stable and most successful financial policy. We look with confidence to THE EARLY RESUMPTION OF SPECIE PAYMENTS, when business men will no longer stand in fear of the perpetual vacillations of currency, of legislation, and of policy.

Hon. GEO. H. PENDLETON, the newly elected President of the Kentucky Central Railroad, and WILLIAM EARNST, have made a very thorough examination of their road last week, having gone over the entire route on a hand car. This is the true way, and we commend it to a great many other "Presidents," many of whom know as little about their own roads, as they do about the open Polar Sea and "Symm's Hole."

EXPLOSION OF NITRO-GLYCERINE AT THE HOOSAC TUNNEL.—The magazine at the Hoosac Tunnel, containing some five hundred pounds of nitro glycerine, exploded on the morning of Saturday, Oct. 9, killing three men. It is surmised that the accident arose from carelessness, but the true cause can never be definitely known, as those killed were the only ones cognizant of the attendant circumstances. The door of the powder magazine was wrenched open by the concussion, but the powder—five hundred kegs—was not ignited. This is the only nitro-glycerine accident that has occurred at the tunnel, although from first to last about ten thousand pounds of the dangerous material have been used in the blasting operations.

The Cumberland and Ohio Railroad.

While the public mind has been occupied on political questions, the projectors and managers of the Cumberland & Ohio Railroad have been working like beavers to secure the necessary subscriptions to make it a success. They have advanced so far, that we have no doubt that a grand trunk line will be built through one of the richest portions of Kentucky, embracing one-tenth nearly of the entire taxable property of the State. Commencing at or near Campbellsburg station, on the Louisville & Cincinnati Short line, thence running southwardly to Newcastle and Eminence, thence by Shelbyville, thence by Taylorsville, Bloomfield, Springfield and Lebanon, thence by Campbellsville, Greensburg and Glasgow, and thence to the State line in the direction of Lebanon, Tennessee, and cutting the counties of Henry, Shelby, Spencer, Nelson, Washington, Marion, Taylor, Green, Metcalfe, Barren and Allen, besides running conveniently near a dozen others, the road will, of necessity, be most valuable as a freight and passenger line, besides adding immensely to the value of the country which it traverses. Its total length from the junction to the State line will be, from actual survey, 170 miles, and the total cost of grading, including tunneling and bridging, is estimated at \$3,000,000. Of this amount, \$2,200,000 have been raised in the several counties enumerated above, except those of Barren, Metcalfe, Nelson and Henry, where the remaining \$800,000 is confidently expected to be subscribed. Barren has declined by a few votes to give \$400,000, but a change in the amount to say \$350,000 would in all likelihood receive the sanction of its people. The other counties will probably come fully up to the anticipations of the friends of the road. The completion of the road bed would not, of course, be the completion of the road, for the outfit in the way of superstructure, equipment, stations and contingencies would require some three millions more. But with a capital sufficient to grade the road through its entire length, the company would find little difficulty in negotiating its bonds in the market for an amount sufficient to put it into complete order as a first class road.

The present President of the road, Z. F. Smith, Esq., elected at a meeting of the stockholders held at Lebanon in June last, has prosecuted the plan, in building this trunk line, of independent self-reliance, not going abroad to obtain foreign aid for an enterprise that promises to be so productive and valuable, but relying on the public spirit of the citizens interested in its construction. In the end, this plan will be found to be highly satisfactory, as it will remit the management to individuals wholly interested in its good conduct. The officers will be directly responsible to the people for whose benefit immediately it was built, for a proper discharge of their duties, thus preventing that imposition so liable to occur in roads owned and managed by non-residents. As the Cumberland & Ohio road will naturally be a paying road, the dividends will go back into the pockets of the persons, or into the treasury of the counties, that have furnished the capital used in its construction.

The connections of the road are exceedingly valuable. From the junction on the Cincinnati Short Line, a branch would reach the Ohio river at Madison, Indiana, in twenty miles, thence connecting by rail with Indianapolis, Chicago, St. Louis and the Northwest

generally. Eastward, by the Short line, is Cincinnati and its innumerable outlets. At Eminence, the Louisville & Lexington railroad is bisected, giving connections west through Louisville and east by the proposed Big Sandy road to the Atlantic coast. At Lebanon, the Knoxville Extension of the Louisville & Nashville road is also bisected, giving access to the coal and lumber regions of the mountains and again to Louisville. From Campbellsville a branch is contemplated, extending through Columbia, Albany or Monticello, &c., to Chattanooga, a distance of 158 miles by air line, thus reaching the great net work of railroads converging at this point and sweeping the entire country from New Orleans on the Gulf coast, to Savannah and Charleston on the Atlantic. After crossing the State line near Big Trammel Creek, the Cumberland & Ohio road goes direct to Lebanon, Tennessee, and thence south-east to Nashville, where a net work of railroads converges, embracing the country from New Orleans to Little Rock, Arkansas. From Lebanon a branch is also contemplated, extending almost due South to Murfreesboro, distant thirty miles. The people of Tennessee pledge to complete their end of the proposed road, having assistance from the State at the rate of \$10,000 per mile and \$100,000 to bridge the Cumberland.

The enterprise is a grand one, promising the development of a large scope of valuable country, the influx of population and wealth, the liberal increase of the facilities of trade and travel, and all the conveniences that result from bringing the producer in contiguity with competing markets.—*Frankfort Commonwealth.*

A HERO TO HONOR.—Albert G. Drecker is the bridge tender at the Passaic river draw-bridge, on the Newark & New York Railroad. On Friday afternoon, just previous to the time for a passenger train to reach the bridge, the draw was open. Mr. Drecker knew that the train was coming. He began to turn the bridge, so as to close the draw before its arrival.

At this moment he saw his little son, who was only ten years old, and who was not far from him, fall from the bridge into the river below. He saw the train coming swiftly toward the bridge, and knew that to do his utmost there was barely time to close the draw. In the water below him his boy was struggling for life. A leap into the stream at this moment, and he could save his child. But the train came thundering down, and he knew if he left his post for even a single instant, a hundred lives might be sacrificed. He staid. Slowly the bridge was swung into position, and the train passed safely over; and none of the passengers knew what their safety had cost the poor workman who sprang into the river only to take from thence the lifeless body of his boy.

Is their any story of heroism to surpass this? Think, if you can, the terrible alternatives of duty that were presented to this man. There was no time to deliberate. His son was dying. He could easily rescue him by leaping into the river beneath. But that leap must have cost many other precious lives—and had he a right to imperil these? The agony for a lifetime of suffering must have been compressed into that moment of doubt. With sublime and heroic fortitude, this noble father resolved to do his highest duty; and to that duty his son was sacrificed. How many of us would have done the same.—*N. Y. Sun.*

Northern Pacific Railroad.

LETTER FROM AN ILLINOIS FARMER.

ROCKFORD, ILLINOIS, October 2, 1869.

Dear Sir: I saw by your paper of the 23d ult., that you expressed a desire to see the report of my friend, the Railroad Commissioner, I referred to in my letter of the 18th. I have obtained his permission for you to publish such parts of it as I might select. Accordingly, I have copied such portions as I think will interest your readers, and herewith inclose it. If, on looking it over, you should think it not worth while to print it, you can return it to me without any fear of giving offense to my good friend, who, I can assure you, cares as little about notoriety as any one I know.

Your obedient servant,
AN ILLINOIS FARMER.

NORTHERN PACIFIC RAILROAD.

September 25, 1869.

The importance of a railroad across the American Continent, within the territory of the United States, by the shortest route, to connect China and Japan with the Atlantic cities, is the great question of the day.

The steamers' route from San Francisco to Japan will be up the west coast of America, as far as the north end of Vancouver Island; and thence westward across the North Pacific Ocean, to avail of the short degrees of longitude, the same as is now done in running from New York to Liverpool. The "nothing" thus made will be near nine hundred miles. The distance from San Francisco to the straits of San Juan de Fuca is about eight hundred miles. It is thus seen, if direct communication can be had between New York city and that point, the distance between New York and Japan will be several hundred miles less than that by San Francisco.

Two very important considerations are to be taken into account in building a line of railroad—character of the country through which the road is to run, and materials with which to construct it.

The country between the Missouri River, at Omaha, and the city of Sacramento, has been so often described, and is so well known that it is not necessary to refer to it in this paper; suffice it to say, however, that at least 1800 miles of continuous rail will be required to connect those two points. It is equally true, on the other hand, that, using the navigable waters of the Upper Missouri and Columbia Rivers, a communication can be had between the Mississippi River, near St. Paul's, and Puget's Sound at Olympia, with less than nine hundred miles of railroad. Thus:

	Miles.
The distance by rail from the Mississippi River to where the Northern Pacific road will cross the Missouri River, is.....	450
The distance by rail around the Great Falls of the Missouri is	20
By rail from head of navigation on the Missouri to that on the "Jocko," is	150
By rail around "Thompson's Rapids" on Clark's Fork of the Columbia is.....	4½
By rail around the Rapids at "Cabinett Landing," on the Columbia, is.....	7½
By rail from "Pend d'Orielle Lake" to the Columbia below Lewiston, is.....	125
Around the Rapids at "Dalles" and Cascades of the Columbia, is	20
From the mouth of the Cowlitz to Olympia.....	80
Total.....	857

It is a question to be solved, whether a railroad will pay the great cost of constructing it from Seattle, on Puget's Sound, up the Dwanish River, through "Yakima Pass," down the Yakima River to the crossing of the Columbia near Wallula, or not—for it is almost taken for granted that no attempt will ever be made to run the road due east from the "Cascade Mountains," to the "Spokane," and thence to Pend d'Orielle Lake. The report of Captain Maclellan, who examined the most of that line, certainly, is not very encouraging.

As the law of Congress authorizes building what is known as the "Columbia River Branch" of the Northern Pacific road, from near Wallula to the mouth of that river, or "at or near Portland," it is suggested whether or not it would be good policy, for the present at least, to build a short road of 80 miles from Olympia on Puget's Sound to the mouth of the Cowlitz, a point only about 60 miles from the sea, and then unite with the Oregon Steam Navigation Company's Steamers on the Columbia, and use them as a means of communication as far up that stream and its tributaries as they can navigate.

From the mouth of the Cowlitz to the Cascades, about 100 miles, the Columbia is a broad, deep river, not unlike the Mississippi at New Orleans. A railroad is in operation five miles around the falls at the Cascades. From the Cascades to the Dalles the navigation is good. At the Dalles a railroad fifteen miles long, in good order, is in operation to the head of the rapids.

From the Dalles to Wallula, 125 miles, the navigation is always good. From this point to Lewiston the navigation is sometimes interrupted, when the water is low, but the shoal places could easily be removed, and thus make the communication to that point permanent and reliable.

From Lewiston to Pend d'Orielle Lake, the distance overland is one hundred and twenty-five miles, which break would have to be united by a railroad. At Pend d'Orielle Lake the Oregon Steam Navigation Company have boats which run up the lake and Clark's fork of the Columbia fifty miles to "Cabinett Landing," the first rapids on the fork. The portage around the rapids here is 7½ miles, which would require a short railroad. Above these rapids the company are building a boat to run farther up Clark's Fork (with only one portage at Thomson's Rapids,) and its tributary, the "Jocko," to a point not more than 150 miles from the head of navigation on the Missouri, above the great falls of that river, near Fort Benton.

The Oregon Steam Navigation Company is a strong, wealthy concern, with a paid up capital of over two million dollars, invested in their twenty and odd boats, railroads around the "Cascades" and Dalles, with the necessary wharves and warehouses to accommodate their present extensive business.

They are prepared to meet the Northern Pacific Railroad Company at almost the very summit of the Rocky Mountains, long before that company can reach that point from the East; so that the great cost for steamers to navigate the Columbia River (as stated by Gen. Simpson in a report he made some time since to the Hon. United States Secretary at War on this subject) is erroneous. The writer has been repeatedly told by the officers of the Oregon Steam Navigation Company, that they will not only furnish the boats required to do all the business the railroad can bring to them, and take their "chances" for compensation, but would aid in improving the

shallow parts of the streams where necessary.

Any one at all acquainted with steamboating on our Western Rivers, knows full well that railroad companies always find boatmen quite ready and willing to make freighting and passenger arrangements and connections with them, without cost to the such railroad companies.

Well informed parties who have been engaged in steamboating on the upper Missouri, state that the navigation of that stream, from where the Northern Pacific Railroad will cross it, say near Fort Clarke, to Fort Benton; and, also, from the Great Falls above Benton for about one hundred miles, is practicable and perfectly reliable, at least seven months in the year. How far the Yellow Stone can be navigated has not yet been ascertained.

As regards building the Olympia Branch from the Columbia River immediately, it may be remarked, that it is not absolutely necessary, for the entrance to the mouth of the Columbia for the largest steamships is entirely feasible. It is quite true that the "bar" at the mouth of the river is bad and rough; yet there are thirteen fathoms of water on it, and the steamers from San Francisco to Portland, Oregon, make their weekly trips with perfect regularity. It is therefore suggested that this Olympia connection be deferred for the present, and that the line be first built from Lewiston to Pend d'Orielle Lake, one hundred and twenty-five miles; for which the rails and rolling stock can be taken via the Columbia River. In the same way such material could be taken for the road around the Rapids of Clarke's Fork, above that lake. For the road around the Great Falls—above Fort Benton—of the Missouri, and from the head of navigation above Benton to that on the "Jocko" River, such material could be taken by the Missouri River from Omaha. For that part of the line east of the Missouri they could be taken over the "Transit Road," or a part might go up the river, also, if it should be desirable to work from both ends of the line east of the Missouri River at the same time.

It is thus seen that the Northern Pacific line, unlike the "Union Pacific," which has to be built over 1800 miles before a communication can be had from one ocean to the other, and that a continuous line, which can only be built from the two ends, is susceptible of being made at several points at the same time; and that the length of road to make the transit of the continent is less than one half as great as that of the "Central" or "Union" Company's line. When the so much less amount of road to build, and abundance of timber on nearly the whole line of the Northern Pacific road, are contrasted with the great distance from the Missouri River to the Sierra Nevada Mountains, and the almost entire absence of timber for superstructures and bridges over that distance—some 1800 miles—on the Union Pacific line, it would seem as though there could be no comparison between the feasibility and value of the two enterprises.

There is another important feature respecting this Northern Pacific line well worthy to be mentioned. The isothermal lines from latitude 36° to 40° north, on the Atlantic coast of the American continent, run far to the north, as we go westward north of that parallel of latitude. The temperature in latitude 47° north, at the east base of the Rocky Mountains, is about that of St. Louis, in latitude 39°, on the Mississippi River, while still farther to the west, in British

Columbia, the Hudson Bay Fur Company raise barley in 65° north.

Colonel Alexander Majors, the celebrated Government freighter over the plains for so many years past, states that his oxen subsist better during the winter months on the Yellow Stone, and come out in the spring in finer condition than they formerly did on the head waters of the Arkansas, notwithstanding there is over ten degrees difference of latitude in the two places. The writer traveled from Salt Lake City via Fort Hall, on the Upper Columbia, Boise City, Idaho Territory, Grand Ronde Valley and the Blue Mountains of Eastern Oregon, thence to Portland by the Columbia River, in the months of January and February, 1865. The climate of Boise and Grand Ronde Valleys (lat. 46 and 47,) was at that time like April in New York city. Descending from the Blue Mountains (lat. 47) to the Valley of the Columbia, at Umatilla, the temperature was so mild that an overcoat was uncomfortable. Cattle and horses were grazing everywhere on the plains as they would be with us in early May. Going down the Columbia, in February as it was, ladies and gentlemen promenade the deck of the boat with as much pleasure as they would a North River steamer early in June. It was difficult to realize, but such was the case. "Isothermal" theories may be taught and studied, but nothing so convinces one of their truth as to experience their influence in that latitude in mid-winter.

As regards the particular "Pass" through the Rocky Mountains that will be adopted, of course only practical engineering can decide that point. But there will be no difficulty on that score, for there are "Lewis and Clark's," "Codottes," "Hell Gate," and two or three others already known, where the grades will be very light as compared with many other mountain roads in this country and in Europe, while it is not at all improbable that other and better passes may be discovered when a thorough, practical examination shall have been made.

CHARACTER OF THE COUNTRY.

When the character of the unoccupied lands of the United States is considered, it will be seen that the Northern Pacific Railroad, running as it does through the choicest of them, is destined not only to sell its own lands rapidly, but will be the means of locating upon the Government lands, in the great North-west, a large population of agriculturists and miners.

That "the area of good agricultural lands in the Territory of the United States is almost without limit," is an erroneous opinion. A large part—if not the greatest portion—of the country in the United States south of the 43d parallel of north latitude; west of the 98th meridian of west longitude, and east of the Sierra Nevada Mountains in California, can only be cultivated by irrigation, and the irrigating can only be done in the valleys of streams. This is caused by the almost total absence of rain in the area here described. North of the 43d parallel there is an abundance of rain as far west as the Blue Mountains of Oregon. West of the "Cascade" Mountains in that State, and Washington Territory, there is, if any thing, too much rain. The lands north of this line, and west of the Mississippi River, are very fertile and produce crops equal, if not superior, to those raised in the old "Western" and "Middle States." Minnesota is claimed to be the most reliable wheat growing State in the Union, and it is believed the broad and fer-

tile prairies and timber lands of Dakota will be found to be equally productive.

Montana will, at no distant day, be as famous a sheep and cattle growing country as it is now for its almost fabulous yield of the precious metals.

Idaho is coursed through its entire length and breadth with the richest of valleys skirting it, thousands of mountain streams, brooks, and rivers "Deer Lodge" valley, in this Territory, is said to have yielded large crops of wheat this past season. This country will soon produce more food for man and beast than its extensive mining districts will require. What an inducement is here presented to the farmer and stock grower? A home consumption at his very door for the greatest portion of his products, and a railroad to carry his surplus to market. The valley of the Yakima River, from the junction of that stream with the Columbia near Wallula, for a distance of seventy-five miles toward the "Cascade" Mountains in Washington Territory, is said to average from five to eight miles wide, with a rich, alluvial soil, producing the finest of grass for its entire length. There is no better farming country on the continent than that found on Puget's Sound.

The whole country from Lake Superior to the Pacific Ocean is well watered; abounding in small lakes, streams and rivers of pure, fresh water; it is one continuous alternation of forest, open-timber land and prairie.

In Minnesota and Dakota the winters are not severe. The fall of snow west of the Mississippi is comparatively light, while the climate from one end of the road to the other is as conducive to health and long life as any part of the world. Such being the general character of the country, it is safe to conclude that the tide of emigration, turning north-west around the "great central rainless" waste above described, will soon cover the vast arable plateau of Dakota, Montana and British Columbia; and will eventually follow the route of the road across the continent to the shores of the Pacific Ocean.

INDUCEMENTS FOR SETTLERS.

To the people of our populous States and crowded Europe, the country that will be opened to immigration by the building of the Northern Pacific Railroad will afford a splendid opportunity to better their condition in life.

It is well known that the American farmer, with his ever profitable farm and comfortable home, is the most independent of men. Under a system of government where every one is free to make the most of his fortune in life, all branches of industry thrive; and where the highest places of honor and trust are within the reach of the humblest, individual effort, virtue and merit are rewarded to an extent entirely unknown in the countries of the Old World.

In the manner in which the hundreds of thousands who have settled in the Mississippi Valley within the past thirty years have succeeded, is found full proof of these statements.

The peoples of Northern Europe, the English, Scotch, Irish, Swedes, Germans, Prussians, Danes and Norwegians, are peculiarly adapted to our "great North-west." Among its forests, on its prairies, in its mountain valleys, by the borders of its lakes, along the banks of its rivers and mill streams, in its mines, or down by its rugged sea coasts, each nationality may find some locality suited to its taste, and where its people may prosper as never before by following their accustomed pursuits.

The first settlers on the route will have the choice of locations, and will buy their lands at the lowest price. While the road is building they will find a ready sale for the products of their labor to the employes of the company. They will also be afforded an opportunity to work for the company in various capacities, thus enabling them to earn money to pay for and stock their farms, and thus make themselves comfortable homes.

SUCCESS OF LAND GRANT RAILROADS.

The Illinois Central Railroad Company was chartered in 1851, and received from the United States a fraction over 3675 acres of land per mile (amounting in the aggregate to 2,595,000 acres for its 706 miles of road), on similar conditions to those contained in the charter of the Northern Pacific Company.

The Illinois Central Company commenced the sale of its lands in 1853. They were sold to actual settlers in small tracts at low prices, and on liberal terms of payment. In this way there was secured on the line of the road, as fast as it was completed (and often in advance of such completion), a sprinkling of energetic pioneers, who soon demonstrated what could be done at clearing and cultivating the lands thus acquired.

The success of the first settlers, and the liberal policy of the company, in time, attracted a large immigration to the company's lands, as is shown by the following statement.

The company received from sales of land in the years of 1853, '4 and '5, only \$476,811 71; while in 1864 alone the sales amounted (including interest on previous sales) to \$2,898,980 19. In the eleven years ending Dec. 31, 1864, there had been sold 1,484,416 49 acres, for \$17,670,267 34, leaving unsold at that time, 1,111,583 51 acres.

Notwithstanding the low price at which the first sales were made, the advance has been so great that the average price per acre for what have been sold is nearly twelve dollars.

The following extracts from the company's report for the year ending December 31, 1864, give some idea of their land operations. The President says:

"I am pleased to report the promising condition of the land department. There has been an active demand for land. Three thousand five hundred and one purchasers have bought 264,432.05 acres at an average of \$10.96 per acre, amounting to \$2,898,980 19.

"These sales are widely distributed and in small tracts. In the majority of cases one-fourth of the purchase money has been paid in cash, and the balance is payable annually in advance. The arrears of interest have generally been paid. The policy has been liberal to the party actually settled upon and working the land. Great care has been taken not to dispossess any man making an honest effort to work his farm, and this course has established confidence in the company.

"The property of the company now consists of 706 miles of railway, 105 miles of sidings and double track, 133 engines, and 3,500 cars. The machine shops are well furnished, and the facilities for building locomotives and cars are ample. A very large outlay has been made at Chicago and Cairo for depot and station accommodations. I do not know that the company will require any more land at any of its stations for many years. Two-thirds of the structures on the road are of masonry. The cost of the property stands on the books of the company at fifty thousand dollars per mile; and beside

the income from the railway, you will have for many years a large revenue from the land.

"The local traffic on the line for 1864 was much disturbed by the requirements of the government. The forage and other supplies for the armies in the South-west were taken, to a large extent, from Illinois, and the preference, which the government had a right to demand, prevented the company from doing the private business of the line with regularity, and great dissatisfaction has existed in consequence thereof.

"Although the rolling stock has been largely increased within the past two years, we have not kept pace with the increasing volume of business, and require more motive power. Our expenses are much larger than in previous years.

"From a careful consideration of the possible condition of the traffic—if peace should be restored—I am disposed to believe that there would be a larger amount of business than we have yet had, and with diminished expenses."

The large local traffic of this road is due in no small degree to the wise policy which induced the settlers to locate along the line of its route. The following statement is, in this connection, worthy of consideration:

Cost of the 706 miles of the road and the other property, as stated in the report, is \$50,000 per mile, making the whole cost.....	\$35,300,000 00
Ded't 1,484,466 acres sold at \$12, is.....	\$17,670,267 34
1,110,583 acres unsold at \$12	13,326,982 12
	<hr/> 30,997,249 46

Leaving the actual cost of the entire railway and property \$4,002,750 54

As the Illinois company's lands are daily appreciating in value, it may with safety be assumed that that company will eventually realize from its comparatively small land grant (3,675 acres per mile) the entire cost of its present valuable property.

If such has been the result thus far with the Illinois Central, what may not be estimated with regard to the munificent grant to the Northern Pacific, which, in the "States" through which the road is to run, is nearly four times, and in the "Territories" almost seven times as many acres per mile as that granted to the Illinois road?

CONCLUSION.

Nearly all that portion of Illinois through which the Illinois Central Railroad now runs, was as sparsely settled at the time that company was chartered, as that part of Minnesota now is through which the Northern Pacific Road will run. There is vastly less desirable, unoccupied agricultural land in the United States now than there was fifteen years ago. Immigration from Europe is increasing so rapidly that it is even now pushing itself far beyond rail communication in its westward course.

The great rainless plain south of latitude 43° is already reached, and it requires no prophet to foretell where this increasing tide of humanity will next find a resting-place. Minnesota and Dakota, with British Columbia and its Red River country, and the Great Saskatchewan Valley, can no longer be held by the "red man" and the monopolizing "Hudson Bay Fur Company." The fertile plains of Montana, and the rich mines of iron,

coal, copper, lead, silver and gold in the mountains beyond them, can not lie dormant as they have (for ought we know) since the creation of the world. They must be opened up. They must and will be occupied. The age of progress in which we live demands it; and it will be done. That man is not fifty years old who, in his childhood days, sailed from Buffalo in the first steamboat that navigated our great lakes; neither is that man fifty-five years old who built the first framed house where the city of Chicago now stands. Thirty years ago St. Louis and Chicago were the western limits of civilization on the North American continent. A journey at that time, from either of those places to "Fort Snelling," on the Mississippi, or "Council Bluffs," on the Missouri, was considered by far a greater undertaking than to cross the continent to the Pacific Ocean is considered now.

Less than forty years ago there were not twenty miles of railroad in the whole United States. Now we have forty thousand miles in full operation. But little less than twenty years ago Lieutenant Fremont was regarded as one of the greatest explorers of modern times for having found a pathway over the mountains to the Pacific Ocean. Now a daily line of "Concord coaches" makes the trip with as much regularity as was formerly done between Albany and Buffalo. Who shall then say that we do not live in an age of progress? It is, indeed, true, that this our western "world does move!" Let the word but be spoken, "that the Northern Pacific Railroad shall be built," and it will be done.

May, 1867.

Since the foregoing was written, the writer has conversed with an intelligent gentleman of Olympia, on Puget's Sound, who made a reconnaissance of the country from Walla Walla to Helena, in Montana, via Pend d'Orielle Lake—Clark's fork of the Columbia river—to a branch of that stream called the "Joeko" and thence up that stream as far as boats can navigate, and so on to Helena overland in an almost due, easterly direction. He says: "The country from Walla Walla to Pend d'Orielle Lake is one of the most fertile I have ever traveled over. The distance from the 'Snake' river (Columbia), near Lewiston, to the lake, is about 125 miles. An abundance of timber for building the road, and all other purposes necessary for its operation, can be procured near the line of the railroad for about sixty miles from the river. From that point to the lake there is no lack of timber of the best kind on the immediate line of the road, and such I found to be the case up the river, and from the 'Joeko landing,' the whole distance, some 150 miles to the 'divide' of the mountains near Helena. The pass at this point in the mountains is so gradually approached, and the 'divide' is so low, that it is difficult to know which way the water runs without close examination. In this respect it is not unlike the 'south pass' west of Fort Laramie. The country between the 'Joeko' and the 'pass' in the mountains is not hilly, but is gently rolling. The timber for the whole distance is good; trees, varying from twelve inches to four feet in diameter, with little, if any, undergrowth, are abundant. The United States mail is now carried by this route to the Joeko, the old "Mullen wagon road" having been abandoned. The soil is good, and produces the very best of grasses in great abundance."

The above notes are added, for it is deemed important to get all the information possible respecting that country.

A Caution to Railroad Companies.—\$27-819.11 Recovered for \$15 01.

By an act of the Legislature passed March 27, 1857, section 17, in relation to extortionate charges by railroad companies, it was provided in relation to the Hudson River Railroad Company that it should be entitled to charge passengers at the rate of two and one-half cents per mile for the distance traveled thereon during the months of December, January, February and March, and two cents per mile during the other months of the year, or \$3 for the through trip. By the same act it was provided that all sums charged to passengers above this rate should be recoverable back from the company in an action at law therefor, together with a fine of \$50 for each separate instance in which such overcharge is made. On the 9th of May, 1866, Philo Johnson commenced an action in the Superior Court of this City against the Hudson River Railroad Company, wherein he alleged that, between that date and the 15th of May, 1865, he had made 540 trips on the Hudson River Railroad between Spuyten Duyvil station and the depot of the road at Twenty-ninth street, in this city, a distance, he alleged, of less than ten miles, for which they charged him at the rate of 25 cents a trip in summer and 30 cents in winter, that sum being, as he alleged, in excess of the legal rate, and therefore in violation of the statute. He further alleged in his complaint that on each occasion of the excessive fare being paid by him he formally protested against the right of the company to collect it, and on one occasion, having refused to pay, he was ejected from the cars. His complaint concluded with a demand for judgment for the amount so overpaid, together with the amount of the fine, \$50, for each violation of the statute. By various legal appliances, the defendant quietly, though persistently, managed to retard the hearing of the case until June 24, 1869, when by an order of Judge Fithian, the case was referred to Hon. Charles P. Kirkland, to hear the testimony and report to the Court. After a hearing of four months the referee rendered the report, certifying to have found that the plaintiff had made 526 trips on the cars of the defendants' line between the periods stated in the plaintiff's complaint; that 177 of these trips were made during the winter months, for which the plaintiff was charged at the rate of 30 cents per trip, and 349 trips were made during the other months of the year, for which plaintiff was charged at the rate of 25 cents per trip, the whole distance being a fraction over ten miles. He found from this that the entire amount overcharged to plaintiff on the winter trips amounted to \$3 54, and on the summer trips, \$11 47, making in all the sum of \$15 01 overcharged him during the year; and, that for each of these overcharges the defendant was liable in a fine of \$50, to be paid the plaintiff according to the statute. This report of the referee has now been confirmed by the Court, and judgment entered up in favor of the plaintiff for the sum of \$26,315 01 fines and overcharges. \$129 interest and \$1,381 10 costs, making the entire amount recovered by plaintiff, \$27,819 11.—*New York Times*.

[A pretty good year's business for Mr. Philo Johnson; he ought to have continued it, as it is equal to gold gambling.]

—Six and a quarter miles of the Mont Cenis Tunnel have been bored, and but one mile remains to be excavated.

Tennessee Debt.

The biennial report of the Comptroller of the State of Tennessee, as submitted to the General Assembly, shows the following relative to the State finances:

The following is a statement of the State debt proper:

Turnpike.....	\$1,228,356 66
Bank of Tennessee.....	1,000,000 00
Railroads.....	410,250 00
Hermitage purchase.....	48,000 00
State Capitol.....	658,000 00

Total.....	\$3,344,606 66
Funded Interest.....	735,553 00

Total..... \$4,080,159 66

The State has loaned to turnpike roads \$545,000 in bonds.

The following is a statement of the Railroad debt:

State bonds loaned.....	\$26,412,000
Bonds indorsed by the State.....	2,195,000
Funded interest.....	3,213,046
Interest to July 1, 1866.....	2,306,477

Total..... \$34,127,524

Claim of the United States *vs* Edgefield and Kentucky Railroad assumed, \$130,804.

Claim of the United States *vs* Memphis and Clarksville Railroad assumed, \$380,756 24.

This added to the former total, makes \$34,639,084 89.

The total debt, including State debt proper, bonds loaned to turnpikes, bonds loaned to railroads, is, by the above figures, \$39,264,244 55.

Since the war there have been loaned to the railroad companies, in bonds, \$13,292,000, and to turnpike companies, in bonds, \$55,000—making a total of \$13,347,000.

The following despatch is of interest in this connection:

NASHVILLE, Oct. 18.—In the Senate, to day, the following resolutions were unanimously adopted:

Resolved, That the people of Tennessee will never signalize their restoration to the control of public affairs by countenancing, in any manner, a disregard of their public obligations.

Resolved, That under strict retrenchment and rigid economy in all other respects, all the available revenues and resources of the State should be faithfully appropriated to the payment of the interest on our bonded debt, and the security of the principal at maturity, for which they are in honor bound.

Mr. A. J. Fletcher, Secretary of State of Tennessee, in a letter to the New York Times remarks that statements to the effect that the business of cancelling old bonds and issuing new ones has been conducted in a careless manner, without full and accurate record of transactions, are all untrue, and that all the proper books have been kept and the business conducted with the usual care practiced in such operations. He says further:

"Any able business man, if he could be untrammelled, can take charge of the finances of Tennessee, and by a judicious management of the State's lien on her railroads, reduce the debt of the State in twelve months to nine million dollars—a sum that the people of the State would not be conscious of. Half of the entire debt rests upon the railroad companies who pay their interest without difficulty, and who are already considering the project of buying in the bonds of the State

to an extent sufficient to extinguish their entire liability to the State. This would certainly be sound financial policy on their part, and as the Louisville and Nashville Railroad Company has done so, strong hopes are entertained that other companies will follow."

Trade Statistics for July.

Monthly report No. 1, series of 1869-70, from the Bureau of Statistics, now in press, shows the value of domestic exports from the United States during the month of July, 1869, to have been \$35,433,835, of which \$27,094,216 was of merchandise from Atlantic ports; \$9,87,013, merchandise from Pacific ports; \$6,107 047, specie and bullion from Atlantic ports; \$1,245,559, specie and bullion from Pacific ports; the whole, reduced to gold values, amounting to \$28,291,177. The principal articles of export were:

Wheat.....	\$5,966,168
Flour.....	2,240,760
Raw Cotton.....	1,274,015
Sporting Guns.....	633,451
Petroleum.....	3,315,998
Bacon and Hams.....	848,282
Lard.....	463,773
Pork.....	259,822
Cheese.....	1,119,065
Leaf Tobacco.....	4,105,500

The present account contains the new classification of domestic exports, the commodities specified numbering twice as many as in previous years.

Total imports during the month, \$37,604,886; dutiable, \$34,928,000; free of duty, \$2,676,886; entered for consumption, \$20,931,684; entered warehouse, \$16,673,202; brought in American vessels, \$10,238,591; in foreign vessels, \$27,366,295. The principal articles imported were:

Silver Coin.....	\$ 656,129
Coffee.....	1,267,859
Chemicals, Drugs and Dyes.....	649,590
Manufactures of Flax.....	1,262,109
Hides and Skins.....	1,125,786
Railroad Bars or Rails.....	896,471
Silk and Manufactures.....	2,338,645
Brown Sugar.....	5,082,635
Molasses.....	1,448,228
Tea.....	687,290
Tin and Manufactures.....	635,550
Wood and Manufactures.....	1,382,501
Wool.....	614,012
Woolen Dress Goods.....	2,011,421

The total value of re-exports was \$1,747,266, of which \$838,927 was gold and silver coin. The statement of imports, exports and re-exports shows the transactions under these respective heads for the month of July, 1869, and for the seven months ended the same, compared with the corresponding periods of 1868. The total tonnage of vessels engaged in the foreign trade during the month was: Entered, 1,020,704; cleared, 1,028,094. The entrances and clearances of the six principal ports were as follows:

	Entered.	Cleared.
New York.....	294,952	301,778
Boston.....	75,849	78,202
San Francisco.....	42,966	43,345
Philadelphia.....	29,133	23,338
Baltimore.....	21,523	19,633
New Orleans.....	8,808	13,352

—The Suez Canal has cost \$81,000,000.

Raising a Steamer.

We witnessed, with a great deal of interest, recently, the raising of the steamer New Haven, which sank at her dock, foot of Delancey Street, East River. She had been used formerly as a tow-boat on the East River, but had been laid up for some time, and it is not known what accident caused her to sink. The work of raising her was commenced by Messrs. Wm. D. Andrews & Bro., the well-known manufacturers, No. 414 Water Street, who used one of their centrifugal pumps for the purpose. The pump in question was what is known as the fifteen inch size, and some idea of its pumping power may be formed from the fact that the decks of the large steamer, which were several feet under water, were brought to the surface in about fifteen minutes, the whole work of raising her being performed in about half an hour, a fact that is of itself not surprising, since the volume of water thrown by the pump was equal to about 25,000 gallons per minute. The pump of Messrs. Andrews & Brother is, as its name implies, centrifugal, the water being raised by the action of four or more "wings" on a shaft, working in a cone shaped case, to which are attached iron suction and discharge pipes, of any required length, and of a diameter corresponding with the size of the pipe, and is very compact, consisting of only three pieces, the size used weighing, with the engine used in driving it, over three tons, steam being of course supplied from a steamer alongside. They manufacture, however, pumps of different capacities, from 100 to 60,000 gallons per minute, the medium size, or about 1,000 gallon pump, being particularly adapted to sailing and steam vessels, and its adoption for use in case of a leak would, we are thoroughly convinced, be the means of saving many lives, as well as greatly mitigating the danger of sea voyages, and materially lessening the insurance on vessels.—N. Y. Commercial Advertiser.

ENGLISH RAILWAYS.—The railroads of Great Britain, it will be seen from the figures we quote, do not exhibit as profitable a business this year as last. The Railway News says that the traffic receipts of the railways in the United Kingdom for the week ending September 17, 1869, upon a mileage of 12,936, amount to £847,991, being equal to £60 18s. per mile. For the corresponding week of last year the receipts were £853,097, the number of miles open 12,542 or £68 1s. per mile. A comparison of the two weeks shows a decrease in the aggregate receipts of £5,106, and an increase in the number of miles open of 394. On the lines having termini in the metropolis the increase has been—on the Metropolitan, £2,251; Midland, £1,201; London, Chatham and Dover, £1,643; Great Western, £2,798; London and North-western, £266, and South-eastern, £439. But there has been a decrease on the London and Brighton of £32; North London of £252; London and South-western of £1,194; Great Northern of £6,881, and on the Great Eastern £3,221. On the other principal lines in England and Wales, there has been a decrease on the Lancashire and Yorkshire of £1,268; on the Manchester, Sheffield and Lincolnshire of £2,771; on the North-eastern of £1,613, and in Scotland, the Glasgow and South-western shows an increase of £339, and the Caledonian, a decrease of £673, and the North British of £890.

PAPER BELTING—There was exhibited at a recent meeting of the Franklin Institute a specimen of paper belting, manufactured by Messrs. Crane Bros., Westfield, Mass. The new article of belting is made of pure linen stock. Equal durability and driving power with leather belting is guaranteed, except when used for shifted belts; none are made narrower than five inches. It does not stretch, nor change shape, and can be made in one piece, of any desired length and width and thickness, and is uniform in every particular. It hugs the surface of the pulleys closely; generates no electricity while running; is sufficiently flexible to pass over six-inch pulleys without cracking; is not injured by the heat, dust, oil or moisture, incident to ordinary use, and is forty per cent. cheaper than leather.

A CARD.

A Clergyman, while residing in South America as a missionary, discovered a safe and simple remedy for the cure of Nervous Weakness, Early Decay, Diseases of the Urinary and Seminal Organs, and the whole train of disorders brought on by baneful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope, to any one who needs it, *Free of Charge*.

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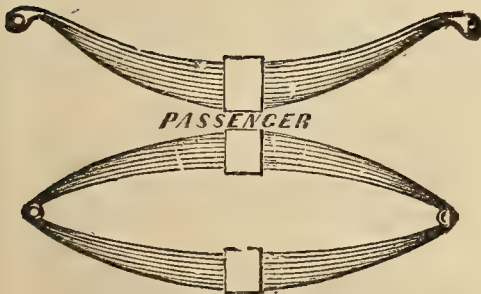
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Dayton & Sandusky Mail.	7 00 A. M.	5 25 P. M.
Richmond & Chicago.	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Rich-	3 30 P. M.	10 30 A. M.
mond.		
Indianapolis & Cambridge City.	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.		6 45 A. M.
Richmond & Chicago.	7 00 P. M.	9 20 A. M.
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Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES,	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Arrive SANDOVAL,	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O'H,	6 10 a.m.	11 30 p.m.	12 00 m.

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	Leave.	Arrive.
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St. Louis and Springfield Express.	10 35 pm	3 30 pm
Lawrenceburg Accommodation.....	10 00 am	2 35 pm
Lawrenceburg Accommodation.....	4 45 pm	8 05 am

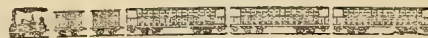
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 urdays.

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Chicago Mail.....	7 00 am	10 00 am
Chicago Express.....	6 10 pm	9 40 pm
Harrison Accommodation.....	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnet House
 Office, corner of Third and Vine; River Office, corner of
 Walnut Street and River; and at Depot, corner of Plum
 and Pearl Streets. The splendid Passenger Depot of the
 I. & O. Railroad is about a mile nearer the business center
 of the city than the Depot of any other railroad, and with-
 in a few squares of the Postoffice and principal hotels and
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J. F. RICHARDSON, Superintendent.
 A. E. CLARK, General Ticket Agent.

Philadelphia, Wilmington & Baltimore**RAILROAD!****FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA FOR THE SOUTH DAILY**

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
 Express; 2.30 P. M.; 11.30 P. M. night.
 On Sundays, 4.30 A. M.; 11.30 P. M.
 Leave Baltimore for North and West 7.35 A. M.; 7.20
 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
 P. M. (Express)
SUNDAY TRAINS—Leave Philadelphia for Baltimore
 at 4.15 A. M., and 11.00 P. M. Leave at
 Baltimore for Philadelphia at 8.25 P. M.
 Leave Philadelphia for Wilmington at 11.30 P. M. Leave
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	LEAVES.	ARRIVES.
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Walton Accommodation.....	4 00 P. M.	9 30 A. M.

†The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
 the Walton Accommodation, offer great inducements to the
 citizens of Cincinnati and Covington who wish to pur-
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 This train leaves late in the afternoon, and arrives early
 next morning, giving all day to attend to business. For
 further information as to routes, low fare, &c., please apply
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SAM'L GILL, Gen'l Sup't. Louisville.

CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Lib-
 erty st., connects at Hampton Junction with the Dela-
 ware, Lackawanna, and Western Railroad, and at Easton
 with the Lehigh Valley Railroad, and its connections,
 forming a direct line to Pittsburg and the West, without
 change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago,
 Cincinnati, St. Louis, etc., with but one change of cars.
 Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as
 follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk,
 Williamsport, Wilkesbarre, Mahoney City, Tuckahoe, &c.
7:15 a. m.—For Somerville.
8:30 a. m.—For Flemington, Junction, Stroudsburg,
 Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.
12 m.—For Flemington, Easton, Allentown, Mauch
 Chunk, Wilkesbarre, Reading, Columbia, Lancaster,
 Ephrata, Lids, Pottsville, Scranton, Harrisburg, &c.
3:30 p. m.—For Easton, Allentown, Mauch Chunk
 and Belvidere.
4:30 p. m.—For Somerville.
5:25 p. m.—For Somerville and Flemington.
6 p. m.—For Easton and intermediate stations.
7 p. m.—For Somerville.
7:20 p. m.—EMIGRANT—Stopping only at the principal
 stations.
9:00 p. m.—For Plainfield.
11:50 p. m.—For Plainfield, on Wednesdays and
 Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays.)
 for Easton, Allentown, Harrisburg, and the West without
 change of cars to Cincinnati or Chicago, and but one
 change to St. Louis. Connects at Harrisburg for Erie and
 the Oil Regions. Connects at Junction for Stroudsburg,
 Water Gap, Scranton, &c. Connects at Phillipsburg for
 Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Satur-
 days.) for Easton, Bethlehem, Allentown, Reading, Harris-
 burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars
 to Pittsburg and Chicago. Connects at Junction with
 Delaware, Lackawanna and Western Railroad for all sta-
 tions to Scranton. This train will be run to Easton on
 Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,
 Allentown, Reading, Harrisburg, Pittsburg, and the West
 —connects at Harrisburg with train for Williamsport, Erie,
 &c.
 Sleeping cars through from Jersey City to Pittsburg
 every evening.

Trains leave for Elizabeth at 5:47, 6:30, 6:55, 7:15
 8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:0, 2:0
 3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25,
 7:0, 7:2, 7:40, 8:0, 9:00, 9:40, 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the
 Central Railroad of New Jersey, foot of Liberty st., N. Y.;
 at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at
 No. 10 Greenwich st., and at the principal hotels.

R. E. RICKET, Superintendent.
 H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - } Editors.
T. WRIGHTSON, - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, NOVEMBER 11, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

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Mackinaw & Michigan Railroads.

The other day we met EDGAR CONKLING, Esq., who said he was packed up for Mackinaw City. What! said we, are you going to stay all winter? And what are you going to do? "Oh yes, the climate is cold, but dry, like Minnesota, and I am going to do my part in developing that country." "Well, how will you develop it?" So he went on, and detailed various things to be done in Mackinaw City, (not Mackinaw Island, for not much can be done with that,) and pointed to several railroads which were to terminate there, etc. Now, the reader will recollect that for several years past the RECORD has given full information in regard to projected railroads in Michigan, to their termination at Mackinaw, and to the favorable prospects at that place. In particular, we regarded it as certain that at some time the great line of railroad called the "Cincinnati & Mackinaw Line" would be made, and made even from the Lakes to Pensacola. Time is, indeed, an element of all human progress, and hope deferred maketh the heart sick. Still, in works which concern a whole country, whose great results are obvious to all intelligent minds, and which, in the proper relation of art to nature, and of commerce to the development of the country, *must* be made, we have always the consolation to know, that *time* will accomplish the result; albeit, we may have to wait for other help in another period. Of Mackinaw we have often spoken, but so long since, that it may be well to review its prospects and the means by which Northern Michigan is to be developed.

MACKINAW CITY is at the northern extremity

of the lower peninsula of Michigan, on the southern side of the Straits. It is, in fact, where the Jesuits originally selected their post at the Straits, and as such is well known in the early history of Jesuit settlements. The Straits of Mackinaw unite the three great Lakes of Michigan, Huron and Superior. There can be no communication between Lake Superior and Huron on one side and Lake Michigan, or between Lake Michigan and the southeastern Lakes, without passing Mackinaw. Hence, there is no question of its great advantages as a commercial point. Already hundreds of vessels pass there annually, and the number is constantly increasing. So also the whole copper and iron region of the northern peninsula must send their products by Mackinaw. Looking, therefore, to its position as a lake port, Mackinaw must inevitably be a large commercial town. It is near the 46° of latitude, and therefore by no means so far north as to cause any difficulty on account of climate. The northern peninsula of Michigan, as well as the southern, must develop, and that at an early day. In looking over the census of 1860, we find that the line of advancing population had advanced to within 100 miles of Mackinaw, and all who know anything of this country, know that a line of settlements made by the hardy immigrants of the north, soon gets over 100 miles. Eight years have passed away, and the settlements have still further advanced, and yet lands near Mackinaw may be had at or near government prices. Hence, we *infer*, that, by all laws of trade and social advancement, the tide of population must very soon have reached Mackinaw, and require a shipping port, which, of course, will arise here. Our friend, who said he was bound for Mackinaw, is not, therefore, very much out of the way, and we expect to see a city spring up at Mackinaw with as much certainty as they did at Detroit and Toledo. This brings us to the railroads, which are to connect Mackinaw with the outer world through the Southern Peninsula of Michigan. Among the vast grants of land made several years since by Congress to various States, was one to the State of Michigan for two great lines, one on the west side of the State, from Grand Rapids by Traverse Bay to Mackinaw, and the other from Saginaw Bay to Mackinaw. Both will meet at Mackinaw City, and in themselves create a shipping town of considerable magnitude at that place. But will these lines of road be made? In the first place we may say, that these land grants are very large, several millions of acres, and that they are conditioned on the road being made in a certain time; but that time has been extended, and for the completion of these roads, or a part of them, now extends to 1874, a time amply sufficient. But on that point we have no doubts; Congress acts on these subjects in the spirit of a just and reasonable liberality.

These grants were made to the State of Michigan for the improvement of the country, and Michigan will use them for that purpose. But it is desirable these roads should be made as soon as possible, because, as we have already said, this country is already peopling, is already advancing towards Mackinaw, and those people will especially need the means of transportation both to and from Mackinaw.

Let us now look at these railroads a moment. The Grand Rapids line begins on the southern boundary of Michigan, about 150 miles west of Toledo, thence nearly north about 90 miles to Grand Rapids, thence a little east of north about 160 miles to Mackinaw; making about 250 miles from the Michigan line to Mackinaw. This line is now in course of construction, and we believe a good deal of it is already made. Almost the whole of this road will pass through counties already populous, and touching upon points such as Kalamazoo, Grand Rapids, and Traverse Bay, which must be large shipping points, and the opening up of which must largely develop the country and increase population. On the south side this road enters one of the richest parts of Indiana, and will finally find its way to Indianapolis and Cincinnati, via the Fort Wayne, Muncie & Cincinnati Railroad.

The line on the east side of Michigan will begin at Bay City, on Saginaw Bay, and proceed west of north to Mackinaw. The grants for this road are the same, and the lands are undoubtedly good, lying in a pine and salt region, which must sooner or later attract large numbers of people. This road from Saginaw Bay will be about 120 miles in length. We understand there is to be a convention at Saginaw on the 23d of this month to consider measures for the advancement of the line and hasten its construction, in accordance with the terms of the land grant. On the south are roads connecting Saginaw Bay directly with Detroit, and thence south, with Ohio. This road also will be speedily made; but those who look on the map and see Cincinnati as the great metropolis of the Ohio Valley, and this metropolis as demanding the products of the north as well as the south, must see that the real line which is needed as a grand artery, connecting the basin of the lakes with the south, is not exactly either of the above lines, but the "CINCINNATI & MACKINAW" line, which will extend in the south to Pensacola. This line will proceed from Dayton almost exactly north to Van Wert, Defiance, etc., thence directly north through central Michigan to Mackinaw nearly equidistant between the other two roads. Unquestionably, however long delayed, this work will be made. When a thing is essentially right, and when it presents itself as offering in the end, intrinsic advantages, greater than any similar work, we may be sure

It will be done. But we shall not now discuss that matter. We consider it absolutely certain, that the Grand Rapids Road to Mackinaw and the Saginaw Bay Road to Mackinaw, will be made at an early day. Not only are the Government grants great and valuable, but the tide of population is constantly moving up, and the roads will soon be an absolute necessity.

But there is another point of great interest to Mackinaw, to Detroit, to Toledo, and to all that immense and fast growing country round Lakes Erie and Huron, and to which the attention of Congress ought to be immediately turned. This is the extension of the Northern Pacific Railroad grant to Mackinaw. There is no reason why this should not be done, and every reason why it should. The Northern Pacific in the end must be the most important of all the Pacific roads which have been planned. We say this advisedly. It is the only one which does not pass through an immense extent of entirely barren land. On the other hand, almost the whole distance of the Northern Pacific, except only the highest parts of the mountain ranges, is on good lands. Again, the Northern Pacific makes much the shortest line between the navigable waters of the East and those of the West. Now, it is very obvious that this road ought to go on the east to some central point of the Lake Basin, and the most central is Mackinaw. It is equally obvious that it will be very difficult to make a road through the northern peninsula of Michigan by private capital. The country is thinly settled, and is a mining region. It is only just and only fair, that the Government should extend at least its land grant through that section to Mackinaw. The whole of Michigan, of northern Ohio, and even of Pennsylvania, are deeply interested in the Northern Pacific, and we trust this matter will be pressed on Congress, and that Congress will act upon it immediately, that these great enterprises may go ahead with speed and success.

GRAND RAPIDS, INDIANA & MACKINAW RAILROAD.—We learn that the main reason for Hon. J. L. WILLIAMS resigning the position of Government Director of the Union Pacific Railroad, which position he has held since 1864, is to devote his energies and talents to the speedy construction of the Grand Rapids, Indiana & Mackinaw Railroad. The reputation of Mr. W. as an engineer and railroad constructor is well known, both in this country and Europe, and augers well for the early and substantial completion of the road.

NEW MUSIC.—We are indebted to JOHN CHURCH & Co. for new music. This enterprising house has all the new music issued, either at the East or West, and the largest stock of pianos and musical instruments in this city.

Fort Wayne, Muncie and Cincinnati Railroad.

The completion of this enterprise is second only in importance to the interests of our city, to the completion of our great Southern Railway and the construction of the Chesapeake and Ohio Railroad connecting us with the seaboard at Norfolk. At a meeting of citizens at the Board of Trade Rooms on Oct. 19th., a committee of very able gentlemen was appointed to examine the route and report on its importance, value, and the means for its completion. Their report is as follows:

REPORT OF THE COMMITTEE.

CINCINNATI, November 3.

Honorable Miles Greenwood, President of the Board of Trade, Cincinnati, Ohio:

SIR—The undersigned committee was appointed by you, under the following resolution, adopted at a meeting of the Cincinnati Board of Trade, held on the 19th ultimo:

"Resolved, That the President appoint six persons, in or out of this board, as a committee to go over the line of the Fort Wayne, Muncie & Cincinnati Railroad, to examine its condition, and the country through which it passes, the prospect of business and trade to pass over the line, the value of connections, &c., and to furnish a written report of their observations to this board."

And having examined the line of said railroad, and the country contiguous thereto, we respectfully submit the following report:

1. THE CONDITION OF THE ROAD.

The Fort Wayne, Muncie & Cincinnati Railroad is now in operation from Cincinnati to Muncie, Indiana, north, a distance of one hundred and ten miles, *via* Hamilton, Ohio, and Connersville, Indiana, and will be completed this week from Fort Wayne to Bluffton, Indiana, south, a distance of twenty four miles. The portion of the road coming more especially under the observation of the committee is that from Connersville to Fort Wayne, one hundred and seven miles in length. On this portion the grades and alignments are good, the heaviest grade being but thirty-three feet to the mile, and the whole line of the road has less curvature than almost any other road of its length. These are items of considerable importance in the cost of transportation, as it costs no more to employ a locomotive to haul forty or forty five cars than it does one to haul but sixteen. Owing to the low grades and good alignment, the road will also be very cheaply worked, and easily maintained, which considerations are among the surest guarantees of a profitable road.

The section between Muncie and Bluffton (forty-two miles) is graded in large part, the masonry, bridging and supplying of ties in a good state of forwardness toward completion. This section is over an old line of railroad, and a great portion—perhaps three-fourths—of the earthwork was completed by the old road. It is stated by the officers of the company that were the necessary funds forthcoming, this section can be completed in ninety days.

2. THE COUNTRY THROUGH WHICH IT PASSES.

For a distance of sixty-six miles, on the northern end of the road, between Muncie and Fort Wayne, the entire local trade of the country will be tributary to and controlled by it, there being no other line of railway sufficiently near to compete with it for this traffic.

The counties traversed by this section are Delaware, Blackford, Wells and Allen. The country is of a character to furnish a large business, and one which, under the fostering care of a well managed railroad, would rapidly increase. The country is well timbered, sufficiently rolling to be easily drained, and of much more than average productiveness. We obtain from the County Auditors of several of the counties such statistics as would be indicative of the character of the country, and the extent of local traffic which it can furnish the road in its present condition of improvement.

Delaware county has an area of 250,000 acres, and a population of 24,000. About one-third of the county is under cultivation. The wheat crop of 1869 was 600,000 bushels, and the corn crop 1,200,000 bushels. The hog crop of 1868 was about 50,000 head, of which 30,000 head were shipped out of the county, principally to Eastern markets.

The taxable value of property in the county is eight millions, and its real value, as per estimate of appraisers, is twenty millions. There are twelve water power and five steam power grist mills, forty saw mills, and three woolen factories in the county. It has ninety-two miles of turnpike completed, and fifty-one miles more in process of construction, valued at two thousand dollars per mile, and the county has expended twenty thousand dollars in the construction of iron bridges in the last three years.

Muncie, the county seat of Delaware county, situated on the Cleveland, Columbus, Cincinnati & Indianapolis Railroad, is a flourishing city of four thousand inhabitants, handsomely laid out, and well built with excellent church and school buildings, and eighty eight stores, factories and shops. To convey some idea of its present railroad business, we give from the report of the Cleveland, Columbus, Cincinnati & Indianapolis Railroad for 1868 some items of the business of that station.

In 1868 there were shipped on that road, from Muncie eastwardly, fourteen million pounds of freight, and westwardly, two and one-half million pounds. There was received in the same time, by the same road, at Muncie, from the east, three and one-half million pounds, and from the west, four and one-half million pounds. There were over twelve thousand passengers, and they were carried an average of twenty-five miles each. Muncie was the ninth station on that road in the number of passengers carried, the eighth in the amount of freight forwarded, and the tenth in the amount of freight received, including its terminal stations, Cleveland, Columbus and Indianapolis, and its points of junction with other roads. Arrangements have already been made for through trains, making close connections with the new line at Muncie.

Delaware county has donated \$100,000 in cash to the new road, and Muncie has donated \$6,000.

Blackford county adjoins Delaware county on the north, and is the smallest county in area in that State, having but four townships. We are without any statistics from it, but the land is of the same general character as the other counties named. It has donated to the new road \$30,000.

Wells county adjoins Blackford on the north, has an area of 234,500 acres, and a population of 16,000. About one-third of the county is under cultivation. The wheat crop of 1859 was 300,000 bushels, the corn crop of 1868 was 600,000 bushels, and the hog crop of 1868, 20,000 head.

The taxable value of the property is \$2,750,000, and its real value, by estimate, is \$13,600,000.

There are six water power and two steam power grist mills, thirty steam saw mills, ten factories, and twenty-five stores and shops.

The land in this county is of excellent quality, heavily timbered with white oak, ash, hickory, poplar and black walnut timber, and of the same general character as the other counties. There is no railroad nearer than Fort Wayne, an average distance of forty miles, to which all their produce for shipment has been hauled in wagons, over miserable mud roads, and at great expense. This county has donated \$100,000 in cash to the new road.

Allen county (Fort Wayne the county seat), with an area of 415,000 acres, about one-half of which is under cultivation, has 60,000 inhabitants. The property of the county is valued at \$28,000,000. There are in the county forty saw and grist mills, and sixty factories of different kinds. The grain product of 1869 is estimated at 1,200,000 bushels, cattle 25,000, hogs 35,000, and sheep 25,000 head. There are one hundred and twenty-five miles of railroad in the county, valued at \$3,000,000.

Fort Wayne, the county seat, is a flourishing city of thirty thousand inhabitants, rapidly increasing in size and business, and fully alive to her material interest. She has subscribed one hundred thousand dollars to the new road.

Henry county, adjoining Delaware on the south, has an area of 246,000 acres and 25,000 inhabitants. The taxable value of its property is \$10,500,000. Its crops in 1869 were: wheat, 600,000 bushels; corn, 500,000 bushels; potatoes, 100,000 bushels; flaxseed, 100,000 bushels, and apples, 50,000 barrels. No statistics of live stock, but it is a large hog raising county. About one-half of the county is under cultivation, and the balance heavily timbered with white oak, poplar, ash and white and black walnut. The soil is very productive, and the surface slightly rolling. The land is well improved and susceptible of the highest cultivation.

Newcastle, the county seat, has a population of 3,000; Knightstown, 2,500; Middle town, 1,200; Greensboro, 600; Cadiz, 500, and there are several other smaller villages.

Besides the counties named, and through which the road passes, we mention as tributary to the road some of the adjacent counties on the east and west whose most convenient outlet will be over the road. These are Madison, Grant, Huntington, Adams and Jay counties, all of which are of the same general character for products and improvement as those before named, although we have no statistics for them.

In the foregoing statement we have named only those counties to which the new road is a necessity (excepting Allen county), that is to say, which have no other outlet for their products as convenient as the new road will be, for which reason we can fairly assume that the great bulk of their products will come to the new line. The gross product of these counties, the present year, was over ten millions of bushels of grain, and about four hundred thousand head of live stock, and their population nearly two hundred and fifty thousand. Estimating that but one-fourth of these products find an outlet over the new line, and it would furnish thirty-eight car loads per day for every working day in the year.

In addition, we should mention the fact

that the advantages of the new line are at least equal to those of any other competing line for the trade of the other counties through which it passes, and that it can not fail to receive a fair share of it.

When we consider the fact that under the fostering influence of other lines of railway, the counties not named are much better improved, and therefore much more productive, than those we have named, it will be seen that even though their trade must be shared with other lines, yet that the portion coming to the new road will, with proper management, be very considerable.

3. ITS LOCAL TRAFFIC.

But little can be said on this subject which has not already been included in our remarks under the preceding heading, and we can say little more than to state in a general way that it will enjoy the exclusive trade of a territory lying between Muncie and Fort Wayne, of more than sixty miles in length, and of an average width of one hundred miles, a wider district yet without railroad facilities than in any other locality of like fertility in any of the adjoining States. Between Peru and Dayton and Michigan Railroad this tract of country is composed of the very best quality of farming land, almost, if not fully equal to the rich farm lands of our own Miami Valley, and susceptible of the very highest cultivation. Local traffic is the sure basis for permanent income, and here this line has room to collect it. The productions of the district, and the miscellaneous traffic necessary to sustain it, with the general commercial intercourse between Cincinnati, Fort Wayne, and other points touched by the road, will furnish a reliable basis for revenue.

In former years, before the completion of the lines of railway passing east and west through Fort Wayne, Muncie and other points on this line, nearly all the trade of that country came to our city, and that, too, at a time when they were compelled to draw their supplies in wagons, over mud roads, a distance of from one hundred to one hundred and forty miles. On the completion of the east and west lines of railway the trade was attracted to Cleveland, a distance of nearly three hundred miles, but we had the assurance from many of the citizens with whom we conversed in several of the counties, that it would return to Cincinnati as soon as the new line of road is completed.

4. ITS CONNECTIONS.

The road, while depending mainly on its local business and the traffic between our city and Northern Indiana, which a wise and prudent administration of its affairs will make a specialty of fostering and increasing, will receive a large and valuable business, growing out of its position as the shortest and best route between Indianapolis and Fort Wayne, the northern part of Indiana and the State of Michigan. The traffic between so thriving a city as Fort Wayne and the equally thriving capital of the State must be not only immediately profitable, but rapidly increasing. Eight populous counties in Northern Indiana, now without direct communication with the State capital, will find their best route over the new line.

In addition to the railroad facilities already enjoyed by the city of Fort Wayne, two long lines of railway are in progress in a northerly direction, one to reach to Saginaw Bay, at Bay City, and the other *via* Grand Rapids and Little Traverse Bay to the Straits of Mackinaw, at the extreme northern point of the southern peninsula of Michigan.

The Fort Wayne, Jackson & Saginaw Railroad is located through Auburn, the county seat of DeKalb county; Waterloo and Angola, the county seat of Steuben county, Indiana, and through Jonesville, Jackson, Mason, Lansing (the capital of Michigan), Owosso, Saginaw City, Port Saginaw, and terminating at Bay City, Michigan. It is designed to continue the road further north, to Mackinaw, the coming summer. From Bay City south, the cars are running to Reading, one hundred and fifty four miles, and the track will be completed to Angola, Indiana, about the 1st of January, 1870, which will bring the road within forty-four miles of Fort Wayne. Between Angola and Fort Wayne about one-fourth of the work is done, and it is expected that during the winter sufficient work may be done to enable the track-layers to commence operations again early in April, and complete the road to Fort Wayne by July 1, 1870. The iron is secured for the whole line, and it requires but seventy-five thousand of local subscription to make up the amount necessary to complete the road bed ready for the iron in Indiana.

The Grand Rapids & Indiana Railroad is projected and in process of construction from Fort Wayne *via* Grand Rapids to Mackinaw. After a series of financial embarrassments, extending through a period of more than ten years, the road seems sure of completion within a short time, and the year 1870 will, no doubt, witness its completion to Grand Rapids and the rich lumber region along the Muskegon river and its branches.

The lumbering interest of the Muskegon river and the interlocking branches of the Grand river is immense. Next to Saginaw, the mouth of the Muskegon is the largest lumbering point in all the entire lake region, or in the United States. Citizens of Big Rapids, on that river (to which point the Grand Rapids road will be completed in July next), estimate that two hundred and forty millions of feet of pine lumber, in the log, floated past that place last spring, while fifty millions of feet is claimed as the floatage of two of its southern branches, beyond which the trains of the Grand Rapids road are now running.

All of these logs were of course cut on the east side of the railroad line. If but one-fourth of them shall hereafter be sawed on the line of the road, it would load two trains per day for two hundred and twenty days in each year from these more remote lands. Two large saw mills are now being built at Grand Rapids with a capacity of twenty millions of feet per year, designed for the Southern market by rail. With existing mills at that point, forty millions will be cut out of logs floated down Grand river from its northern tributaries.

Pine timber is also reached by the road on intermediate lands where the river floatage of the logs does not compete, and this can only go to market by rail, and is a certain reliance for freight Southward.

One of the very marked results of the opening of the new line, in connection with the Michigan roads, is likely to be the supply of our city, in large part, with pine lumber, shingles and lath, for consumption and distribution. By this line we are only from three hundred to three hundred and fifty miles the heart of the great Michigan lumber district. The line completed, and the intermediate country, from Dayton to Terre Haute, and South, will be able to obtain their lumber at least cost over it.

It is not necessary to dwell on the great

value of a regular lumber traffic with the return freight it would produce, as a source of income to the line over which it is sure to pass, as this must be apparent to all.

5. ITS PROSPECTIVE THROUGH BUSINESS.

We have already alluded to the traffic between Fort Wayne and Indianapolis. Coming properly under the head of through traffic should be classed the business accruing to the road from the various lines of railway crossing this at right angles, as well as the traffic from Northern Indiana and Michigan.

The road has its own Indianapolis branch, connecting with all the Western and South-western lines at Indianapolis, as an important feeder; the Chicago & Great Western crosses it at New Castle, the C. C. & I. at Muncie, and the C. C. & I. C. at Hartford, and the Pittsburg, Fort Wayne & Chicago Railroad, and the Toledo, Wabash & Western Railroad at Fort Wayne, each one of which will contribute valuable business to the new line.

The Michigan roads before mentioned pass through the immense pine forests and the rich farming lands of that State. While the water lines of Lake Huron and Michigan must continue to carry much of the produce of Michigan, yet those lakes are closed to navigation by ice for about five months in the year, during which time these roads will be the only southern outlet for the entire Southern peninsula of Michigan. The timber of that State, of which our city and that of the country through which the road passes, as well as the States south of us, are heavy consumers, seems to be almost inexhaustible, and for many years to come must furnish business for several lines of railway.

These Michigan roads are the only Southern Railroad outlet for Michigan lumber and agricultural products, and the Fort Wayne, Muncie & Cincinnati road is the best route, (because the shortest and of lowest grade,) from their junction at Fort Wayne, for all the lumber coming to Cincinnati, Louisville, and the entire South. Our former source of lumber supply is becoming exhausted,* and we must look to Michigan hereafter to supply us. Our city yarded two hundred and forty millions of feet of lumber the past year, and with the more convenient means of supply, which the new line will afford, we can contribute largely toward supplying the entire South.

Although ours is now a consuming and not a shipping market for grain, yet we feel confident the time is not far distant when we will have regained to a great degree our former trade with the South. When that time arrives, we will be called upon to supply the South very largely with her breadstuffs, and we will need just such a field of supply as the new line affords.

The climate of the South being such that large supplies of grain can not be safely stored any great length of time at any point much to the south of us, our city must become the reservoir of the grain products of Northern Indiana and Michigan, from which to supply the country south of us, not only on the rivers, but through which our railroad lines pass, even to the Gulf.

Here, too, will this great line of railway from the lakes meet the projected rail and water line from tide water in Virginia, the two lines forming a route from Norfolk, *via* Cincinnati to Mackinaw, of only one thousand miles, or about equal in distance with the route *via* Pittsburg to New York.

In conclusion, we suggest as a question the settlement of which must, to some extent, decide the interest of our citizens in the new

road, and govern them in the support they will render it, is it desirable, and will it be profitable to Cincinnati to complete the road?

After reading the foregoing statement of the observations of the committee, we feel that any one really interested in the progress of our city will unite with us in answering the question affirmatively.

It is a line of road built, owned and controlled for the most part by Cincinnati men, who are so largely interested in the prosperity of our city as to insure the working of the road, as far as practicable, in the interests of our city.

It will throw open to Cincinnati enterprise and capital a new and comparatively unoccupied territory five hundred miles in length, and rich in natural products and in undeveloped resources. If we exercise the proper energy and enterprise, and aid to the extent required in the completion of the new road, we can begin to reap this rich harvest within the next year. But should the present opportunity be neglected, we may have the mortification of seeing this most important line of North and South railway pass us by as the East and West lines have already done.

Another important consideration is the fact that this line is the complement of our great Southern Railroad, the completion of which will place our city at the half-way point on the greatest line of North and South railroad on the continent, and that, too, at a point where the products of the two great sections of the country will meet, and where the exchanges therefor can be most conveniently made.

Not only should we consider the positive advantages resulting from the completion of the new line, but it is equally important to bear in mind the fact that this is one of a very few enterprises now left, the early completion of which is necessary to prevent us from retrograding in every business interest of the city. We must have new outlets for our products, and new fields from which to draw our supplies. Where can we find them so nearly ready that bid fairer to give us, at a small outlay, just what we so greatly need?

W. HOOPER,
E. W. WOODWARD,
ABNER L. FRAZER,
B. R. COWEN,
LOUIS HEIDELBEACH.

The committee do not over-estimate the value and richness of the territory traversed by this route, nor the importance of the trade that it would naturally bring within the reach of our merchants and manufacturers. It would open up the entire country between us and Fort Wayne to Cincinnati enterprise, and give us a most decided chance for sharing in the traffic of the middle-western tier of counties of the State of Michigan from the Indiana line to the Straits of Mackinaw. The construction of the line north from Fort Wayne is guaranteed by a land grant from the State of Michigan, fully equal in value to the cost of completing the route up to the Straits of Mackinaw. This route passes over rich beds of coal, gypsum and other minerals, and through the best fruit and lumber region of the State or continent, and terminates at the Straits, which is the natural ferrying point of the vast traffic of the great North-west and the Northern Pacific Railroad. This ferrying

point is owned and controlled, and has been for many years, by a far-seeing, enterprising and energetic citizen of Cincinnati, who this fall, with ample means, and a determination guided by intelligence that will succumb to no obstacles, has taken up his residence there to develop its resources and lay the foundation for a great city, and necessarily for himself a vast fortune. May the smiles of Providence with ample success attend his efforts; for we have no fears that while he thus adds to his coffers, the results will be equally beneficial to the interest not only of Northern Michigan, but also to our city.

The following gentlemen were appointed a committee on subscriptions, classified to the various departments of trade:

On Banks and Insurance Companies—Wm. Hooper and Joseph C. Butler.

On Provision Dealers, Soap and Candle Manufacturers and Commission Merchants—William Henry Davis, Adolph Wood and S. C. Newton.

Dry Goods and Clothing—Geo. W. Jones, Geo. M. Alpin and Henry Mack.

Manufacturers of Iron, Wood, etc.—Robert Mitchell, S. H. Barton, Wm. Aubery, A. E. Chamberlain and H. A. V. Post.

Lumber Dealers—R. M. White and D. B. Pierson.

Grocers, Cotton Dealers and Spinners—Robt. Hosea, Thomas R. Biggs and R. M. Bishop.

Capitalists—Geo. F. Davis, John Carlisle, Theodore Cook and Thomas Sherlock.

Hardware and Iron—Joseph Kinsey, Gazam Gano and J. L. Haven.

Brewers and Tanners—Geo. Klotter, Jr., M. Kleiner, Charles Jacobs, Jr., Wm. Siebern.

Attorneys, Judges, County Officers—T. B. Disney, T. D. Lincoln.

Boots and Shoes—Joseph Trounstone, John Simpkinson, Oliver Posey.

Druggists, Oil and Paint Dealers—Charles Reakirt, A. T. Goshorn, Geo. H. Hill.

Liquor Dealers—Charles Hofer, Samuel M. Murphy, L. La Baiteaux.

Newspapers, Books and Stationers—John A. Gano, Richard Smith, R. W. Carroll.

The Blue Ridge Railroad.

A correspondent of the *Augusta Chronicle and Sentinel* furnishes that journal with the following facts regarding this important line of communication:

The corps of surveyors which left Walbala in the latter part of last summer to re-survey and locate the route of the railroad, has passed through Clayton, Rabun Gap, the Tennessee Valley, and had gotten some distance into North Carolina. A corps of surveyors had also been recently organized and had started from Maryville, Tennessee, to meet the party of engineers just mentioned. It is expected that the two corps will meet each other this winter in the region of the smoky mountains.

As we have before stated, the engineers permanently locate the line of the road as they proceed with the survey, and appoint or detach members of the corps to take charge of and superintend the construction of the different sections of the railway, and everything seems to indicate that this most important work will be urged to completion as rapidly as possible.

Our readers are, no doubt, aware that thirty three miles of this railroad, from Anderson to Walhalla, South Carolina, on the southern end of the line, and that portion of the line from Knoxville to Maryville, Tennessee, on the western end, are already completed and in operation. The road from Walhalla to Clayton, Georgia, about twenty-five miles, has been put under contract and let out to a sub-contractor named Steers, a man who has done a great deal of work on Southern and South-western railroads since the termination of hostilities and said to have been very successful in his operations. This part of the line is considered by railway engineers to comprise the heaviest work on the whole road, and our informant does not think that it will be possible to complete it within the time—August, 1871—specified in the contract. On this portion of the route, running through a very rough and mountainous country, three large tunnels will have to be excavated under the mountains. One of these is the celebrated "Stump House Mountain" tunnel, situated a few miles from Walhalla, and which is at this time more than two-thirds completed. The shafts are so full of water, however, that it will take much time and money to get it ready for work, and the remainder of the tunnel will be so difficult to excavate that the contractors at one time seriously thought of abandoning it, and running the road around instead of through the mountain, although so much money had already been sunk with the shafts. "Dick's Creek" Tunnel is the next one to Stump House Mountain, and will be also a very heavy job on account of its length and the hardness of the rock which will be encountered. Both of the tunnels just mentioned will be bored with machinery modeled after that which is now being used with such complete success on the tunnel under Mount Cenis, in Italy. The third, Saddle Mountain Tunnel, will be worked after the old style.

Shanties were being put up along this line when our informant left Rabun, workmen were on their way there from North Carolina, and by this time, work has, no doubt, been commenced. The construction of the entire line from Walhalla to Knoxville, will be commenced as soon as the surveys are finished, and every effort made to ensure its completion within the time specified.

Michigan Lake Shore Railroad.

The *Muskegon Enterprise* represents the work on this line as going forward at a rapid pace. Our readers will recollect that it was from Allegan to Holland and Muskegon, and probably still further down Lake Michigan.

The *Enterprise* says:

"Now, from Holland north to Traverse City, at every interval of five to twenty-five miles, is some settlement, Holland, Grand Haven and Manistee being now thriving cities, while Whitehall, Pentwater, Ludington, Frankfort, Leland, Empire, Northport and Traverse City, are but the germs of what must eventually be towns of great importance."

"The expense of shipping lumber to Chicago, including tally bills often at both ends, commission, dockage, tow bills, revenue tax, cartage and profits, is from \$3 to \$20 per thousand feet, following all lumber shipped by rail from Chicago."

"Now the great question arises, can not this Michigan Lake Shore Railroad do this distributing directly from the mill yards as

economically as it can be done by vessel to Chicago and thence by rail?"

"Aside from the trade now existing, the iron works now being erected in Frankfort and Leland will be followed by others, and this will become an important branch of business for our shore."

Here is a line of coast, nearly 300 miles in length from Holland to Mackinac, which will eventually be traversed by this road, and nearly the whole is, or has been, timbered with pine, hemlock, oak, beech, white and sugar maple, ash, birch, tamarack, cedar, spruce, and in the northern part of the lower peninsula and on Mackinac island—fir in abundance, all of which sooner or later would, if not burned by the pioneer farmer in log heaps, find its market by this railroad and Lake Michigan, in all shapes, from lumber, bark, cord wood and railroad ties to broom handles, spools, toothpicks and shoepegs."

At the London International Exhibition in 1870, says the *N. Y. Times*, among the models illustrating the beautiful adaptation of the facilities to the wants of the Western Metropolis will be a North River wharf, a composite piece, selected from the choice bits of scenery and art all along the west side. Its chief features will be a pier of semi-decayed plank and timber, supported on piles of all known dimensions, standing at every conceivable angle on two sides and crushed down under water on the third by a few thousand of brick. The warehouse at the entrance of the pier will consist of a legend of the period painted in red, blue and yellow letters seven feet high. Half the adjacent street will be permanently occupied by old steam boilers and stacks of lumber, the other half by merchandise on the move. The sidewalk will be arranged as a general market, and the flanking buildings fitted with every appliance for hoisting in—run. A drove of mad cattle will fill up the foreground, and an offal barge on its way to the Communipaw Flats will relieve the offing.

But the *bijou* of these art treasures will be a New York hack, with its horses, driver and runnet in costume—fare, five dollars a mile, including lesson in deportment. The *N. Y. Post-office*, the Hudson River, New Haven and Harlem Railway stations, the Fulton Ferry conveniences, the Metropolitan system of utilizing sewerage, the street-cleaning operations and the tenement-houses on the east side will be faithfully portrayed by models and panoramas.

NEW PATENT—P. P. Lane and E. Myers, Cincinnati, Ohio—Oct. 12—This improvement relates to the operation of making the hanger, and consists in the arrangement in the mold of a core, core bar, or mandrel, provided with the necessary nuts, in the proper position, and adapted to be withdrawn from the finished casting, leaving the nuts therein. The improvement also includes the combination with the core, core-bar, or mandrel of what may be termed a convex spherical chill.

—A letter from Rio Janeiro says that owing to the bad reputation of nitro-glycerine, a small quantity in the military arsenal there was ordered to be thrown into the bay. Six ten pound cans were put into a boat and taken out 250 yards. The first one thrown out exploded on striking the water, and the concussion set off the others. The boat was blown to pieces, and all the crew, seven persons, killed.

The Pacific Railroads.

REPORT OF THE COMMISSIONERS TO THE SECRETARY OF THE INTERIOR ON THE CONDITION OF THE ROADS.

WASHINGTON, Nov. 1.—The following report of the Pacific Railroad Commissioners has just been made public:

Hon J. D. Cox, *Secretary of the Interior*, S. R.: The undersigned members of a Commission for examination of the Union and Central Pacific Railroads, appointed under a joint resolution for protection of the interests of the Union Pacific Railroad Company, the Central Pacific Railroad Company, and for other purposes, approved April 10, 1869, have the honor to submit the following report:

Under instructions from the Interior Department dated August 14, 1869, four members of the Commission were in Omaha on August 23; but the instructions of the fifth Commissioner having failed to reach him, he was not present, and it was informally decided to proceed to Sacramento. The Commission met at Sacramento on Sept. 8, all the members being present, organized by the election of Gen. Hiram Walbridge, President, and Gen. C. B. Constock Secretary, and commenced the inspection of the Central Pacific Railroad; usually working from 6:30 a. m. till dark, and occupying from Sept. 8 to Sept. 14 in the inspection of that road. The inspection of the Union Pacific Railroad was begun Sept. 14, and completed Sept. 23, when the Commission adjourned to meet at Washington Oct. 13, 1869. But the meeting was subsequently postponed until Oct. 23, when most of the maps and information asked for from the two roads had been received. The joint resolution under which the Commission was appointed requires it to examine and report upon the condition of, and what sum or sums, if any, will be required to complete such said roads for the entire length thereof to said terminus as a first-class railroad, in compliance with the several acts relating to said roads. The instructions of the Interior Department require that the report should be minute and specific upon the several particulars relating to the construction and equipment of each of the roads which those instructions set forth, and that it should state to what extent, if any, the line of either road deviates from the most central, direct, and practicable route mentioned in said acts of Congress. The instructions add: "You will not, however, be restricted to these instructions, but will, in the spirit of the resolution, include in your report any suggestions or facts relating to the roads elicited by your examination, which you shall consider necessary to be submitted to the President of the United States."

The first question that comes before the Commission is what is meant by Congress in its various acts relating to the "Pacific Railroad" by the words "first-class railroad." Railroads now ranked as first-class in this country are far from being perfect at their opening, and have been brought to their present high standard by large expenditures, which a small traffic in the beginning could never have justified. To require the Pacific Railroads to be brought at first to the standard other roads have reached after years of heavy and lucrative business, would be waste of money. It is evident to the Commission that this was not what Congress desired or intended. If private corporations had built these roads without Governmental subsidy, it would undoubtedly have been for their inter-

est to build them at first, at the lowest cost consistent with keeping them in operation, and when built, if a paying business should be developed, to have gradually made the improvements which increasing traffic should render necessary. But Congress had made a large loan, and an extensive land grant, a part of which will be valuable, and in return it required a better road than private interests would have built; a road that should be capable of transporting passengers and freight with rapidity, safety, and certainty; a road as good as a majority of those in the thickly settled States. In the opinion of the Commission, the requirements of the law will be satisfied and the designs of Congress carried out, if the roads be properly located with judicious grades, and have substantial road beds of good wide ballasting, which, with proper care, shall be able to keep the track in good condition throughout the year, permanent structures for crossing streams, good cross ties, iron and joint fastenings, sufficient fastenings, water tanks, buildings, machinery, and adequate rolling stock, the more important machine shops and engine houses being of masonry. And the Commission is glad to be able to say that in its opinion, while some expenditures still need to be made, these two roads are such roads to-day. The expenditures needed for the completion will be given in detail for each road.

Report on the Central Pacific Railroad, with the estimates of sums required to complete it:

LOCATION.

In the opinion of the Commission, the general location is good, although they saw several places where it appeared to them it might be improved in some of its details, perhaps at a somewhat increased expense. But this could only be determined positively by an extended instrumental survey, for which the Commission did not have the time at its disposal, while, as was to be expected, the location is open to criticism, there are no errors, the immediate correction of which should be required by the Government. It is not thought that they exceed reasonable limits, considering the haste with which the latter part of the road was built, nor that either bonds or land grant should be withheld for the small distance by which they increase the length of the road. The road is capable of doing all its business with safety and certainty. The road bed is generally of good width, both in cuts and embankments; but a few points were noticed where the embankments were narrow, and an estimate has been made of the costs of widening them.

TUNNELS.

There are fifteen tunnels on the road through solid rock and conglomerate or soft granite. A part of these are arched with heavy woodwork, which will last for many years. Those not through solid rock and not arched have stood without giving trouble for two or three years, and show no signs of failure. We therefore make no estimate for arching any of them.

BRIDGES, TRETTLES, AND CULVERTS.

The bridges are usually Howe's truss, of good material and workmanship. Several of them are, however, lighter, especially in their suspension rods, than is advisable, and in some cases so light that the heaviest load that can be put on them—a train of locomotives coupled together—should not run over them at high speed. An estimate has been made

for strengthening such as are deemed too weak to carry the maximum load with safety; they are the bridges over the North Fork of the Humboldt, over Donner Creek, and the two long spans of that at the American River. The piers of the American River Bridge are of wood, and an estimate is made for replacing them with stone. The high trestles west of and in the Sierra Nevada are generally of a good character, but at least two of them should ultimately be filled up or replaced by permanent structures, as also the trestles and temporary water-ways east of the Sierra Nevada. An estimate is made for this; the immediate replacement of these trestles, however, should not be required, as they will be safe for four or five years, and in the mean time the necessary experience will be gained as to position and dimensions of the water-ways required. The masonry, especially on the Mountain Division is well constructed and of good materials.

SNOW-SHEDS.

At the summit of the Sierra Nevada, the snow sometimes falls to a depth of about 15 feet, making it a problem of great difficulty to secure the running of trains during the Winter, but one, it is believed, which has been boldly and successfully met. Through the region of heavy snow-fall, except on some high embankments, the track has been covered by strongly-built sheds boarded in at the sides, thus thoroughly protecting it from snow. There are in these mountains frequent snow-slides or snow-avalanches, and in many places the snow crosses their track. Whenever this occurs in excavation, a heavy roof is built over the road and extended up the side of the mountain, to which its upper edge is fitted, and the whole securely fastened to the rock, its slope being such that the avalanche will pass readily over it. These roofs in some cases extend up the slope of the mountain from 100 to 200 feet, and are very strongly built to carry the great weight that may be suddenly thrown upon them. In a distance of 40 miles there is an aggregate length of 32 miles of snow-sheds and galleries costing, according to the statements furnished by the company, \$1,731,000; the iron in the track varies from 56 to 66 pounds per lineal yard, and is thoroughly spiked on good-sized cross trees, numbering from 2,300 to 2,640 per mile. About 150 miles of the road is laid with chairs, and the remainder with fish-joints; the whole is in good surface and line, and as well adapted to high rates of speed as average first-class railroads in the United States.

SIDINGS.

The sidings, which are about 5 per cent. of the length of the road, are ample for the accommodation of its business, and judiciously located.

BALLAST.

A large portion of the road is well ballasted with good material. In making estimates to supply the deficiencies in this respect, regard has been had to the character of the material of which the road bed is constructed, and the small rain falls of the Sierra Nevada.

STATION-HOUSES.

The station-houses west of the Sierra Nevada are not deemed sufficient, and an estimate is made for additional ones. Further east, while they are but common buildings, they are yet sufficient for the present business of the road. When replaced they should be of better character.

WATER STATIONS.

These are sufficient in number and located at convenient points excepting in the Alkali country, where some are too far apart for economy in operating the road—in one case 34 miles—but it is so obviously for the great advantage of the Company to get water at convenient distances that we do not think it necessary to estimate for the cost of an additional supply.

MACHINE SHOPS AND ENGINE-HOUSES.

The machine shops are considered sufficient except at the proposed junction of the two roads. There is a sufficient supply of machinery and tools on hand for all the shops except at this junction. East of Reckton the engine-houses are of wood, and these should have walls of brick or stone. Some additional ones are needed. Estimates are made for all these items. These wooden engine houses are first-class buildings of their kind, but they should have been built of brick or stone originally.

EQUIPMENT.

The Company have on the line of their road 166 locomotive engines, 13 sleeping-cars, and 62 first-class and 35 second class passenger cars; 23 baggage, mail and express cars; 648 box fruit, and stock cars; 1,293 platform cars, and in course of construction, according to statements furnished by the Company, 18 sleeping-cars, 31 first-class and 25 second-class passenger cars, which the Commission believe to be considerably in excess of the number required for the present and immediate future business of the road. The telegraph line is well constructed, and is supplied with a sufficient number of stations.

ESTIMATE FOR SUPPLYING DEFICIENCIES ON THE CENTRAL PACIFIC RAILROAD.

For ballasting the track between Sacramento and Alta.....	\$20,000
For ballasting the track between Verdi and Humboldt.....	50,000
For ballasting the track between Humboldt and Carlin.....	100,000
For ballasting the track between Carlin and Promontory.....	50,000
For widening embankments between Verdi and Humboldt.....	5,000
For widening embankments between Carlin and Toano.....	5,000
For widening embankments between Toano and Promontory.....	3,000
Additional station houses between Sacramento and Alta.....	100,000
Freight and passenger depot at the proposed junction of the two roads	10,000
Engine-house at Truckee, of brick or stone, in addition to the amount already expended there.....	20,000
Substituting brick walls for frame in the engine-house at Wadsworth ...	14,000
Substituting brick walls for frame in the engine-house at Winnemacca...	11,200
Substituting brick walls for frame in the engine house at Carlin.....	11,200
For brick or stone engine-house at Terrace, in addition to the material now there.....	20,000
For brick or stone engine-house at the proposed junction with the Union Pacific.....	40,000
Machine and repair shops at the said junction.....	50,000
Tools and machinery for shops at said junction.....	20,000
Strengthening two long spans of the American River Bridge.....	2,000

Putting in stone piers at the American River Bridge.....	18,750
Strengthening Donner Creek bridge	500
Strengthening bridge over the North Fork of the Humboldt River.....	500
For abutments, straining beam, bridge, and filling at Arcade Creek To fill up Auburn trestle and put in arch culvert.....	15,000
To fill up trestle at station, \$450, and put in arch culvert.....	16,000
Filling trestles and making permanent water ways at 175 short openings of trestle-work.....	70,000
Filling trestles and making permanent water ways at 13 larger openings of trestle work.....	13,000
Total.....	\$576,650

[TO BE CONTINUED]

A CARD

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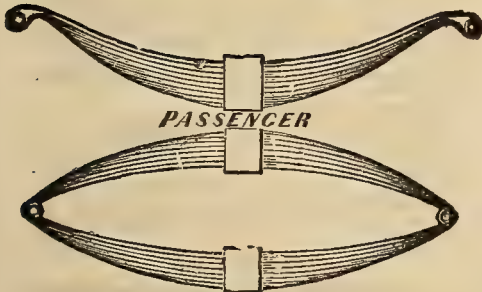
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M. (Dine). (Sleeping Coaches through to

New York); Akron, 4.25 P. M.; Ravenna,

6.10 P. M.; Meadville, 7.55 P. M. (Supper);

Susquehanna, 7.55 A. M. (Breakfast); Tur-

ner's, 1.22 P. M. (Dine); New York, 3.00 P.

M. Connects at Ravenna with Cleveland &

Pittsburg Railroad for Hudson and Cleve-

land; at Elmira for Williamsport and the

South; at Binghamton for Cooperstown,

Albany and the celebrated summer resort,

Sharon Springs, and at New York with

afternoon trains and steamers for Boston and

New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana,

1.25 A. M.; Galion, 4.00 A. M.; Mansfield,

4.44 A. M.; West Salem, 5.55 A. M. (Bkfst);

Akron, 7.33 A. M.; Ravenna, 8.20 A. M.;

Meadville, 11.16 A. M. (Dine); Hornells-

ville, 6.19 P. M. (Supper); New York, 6.30

A. M. Connects at Mansfield with Pittsburg,

Ft. Wayne & Chicago Railway for Pittsburg,

Harrisburg, Philadelphia, &c.; at Meadville

with Franklin Branch for Oil City; at

Elmira with Northern Central Railway for

Harrisburg and the South, and at N. Y. with

morning trains for Boston and N. England

cities.

New and Improved Coaches of the style peculiar to the

Broad Gauge, arranged for both Day and Night Travel,

are attached to this train at Cincinnati and run through to

New York, forming the **Only Line** running through**860 Miles without Change.****Boston and New England Passengers,****with their Baggage, are transferred FREE****OF CHARGE in New York.**

The Erie Railway Company has opened a new

Ferry from their Jersey City Depot to the foot of Twenty-

third Street, New York, thus enabling passengers to reach

the upper portion of the city without the expense and annoy-

ance of a street car or omnibus transfer.

The scenery along the entire route of the Erie

Railway is of the most picturesque and beautiful character.

Admirers of Nature's beauties, in a daylight journey over

this Line, will find in its ever changing landscapes sub-

jects of continual admiration and interest.

Baggage Check'd Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY,

Which can be obtained at the Company's Offices in Cin-

cinnati, 80 West Fourth Street, 115 Vine St., 4 Burnet

H. use, and foot of Broadway. (Spencer House Block) and

at all principal Ticket Offices in the South and South-west.

L. D. RUCKER, **WM. R. BARR,**
General Sup't. Gen'l Pass'r Ag't.

GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

-TO-

**BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,**

WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**From Cincinnati to **Baltimore** and but ONE
or Columbus to **Philadelphia and New York.**
CHANGE toAsk for TICKETS and
BAGGAGE CHECKS via **Baltimore & Ohio R.R.**J. L. WILSON, Master of Transportation.
L. M. COLE, General Ticket Agent.
G. B. GIBSON, General Western Passenger Agent.**Cincinnati, Hamilton & Dayton Railroad.**

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City	7 00 A. M.	9 20 P. M.
Toledo & Detroit	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail	7 00 A. M.	5 25 P. M.
Richmond & Chicago	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada	6 00 P. M.	10 30 A. M.
Hamilton Accommodation		6 45 A. M.
Richmond & Chicago	7 00 P. M.	9 20 A. M.
Hamilton Accommodation	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Bureau Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.**JANUARY 5th, 1868.****Cincinnati to St. Louis Without
Change of Cars.****Ohio & Mississippi Railroad,**For St. Louis, Cairo, Louisville, Evansville, St. Joseph,
Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois
Central Railroad.**TRAINS RUN AS FOLLOWS:**

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI	7 10 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINNENEE	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O. H.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine
Street, Corner Front and Broadway; and at Depot, Foot
Mill Street.C. E. FOLLET, Gen. Passenger Agent
J. W. UNLOGUE,
General Superintendent.**Best Route to St. Louis and Chicago****INDIANAPOLIS,
CINCINNATI
-AND-
LAFAYETTE RAILROAD**

Great Through Passenger Route from CINCINNATI to

**ST. LOUIS,
CAIRO,
CHICAGO,**Memph's, New Orleans, Springfield, Quincy
Keokuk, St. Joseph, Des Moines, OmahaAnd all Rail and River Towns and Cities in the West,
North west and South-west.ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS
WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail	6 30 am	12 20 am
St. Louis and Springfield Express	3 35 pm	8 20 am
St. Louis and Springfield Express	1 35 pm	5 30 pm
Lawrenceburg Accommodation	10 00 am	2 35 pm
Lawrenceburg Accommodation	4 45 pm	8 05 am

*The 10.35 am. train will leave Sundays, but not on Saturdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail	7 00 am	10 00 am
Chicago Express	6 10 pm	9 40 pm
Harrison Accommodation	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnet House
Office, corner of Third and Vine; River Office, corner of
Walnut Street and River; and at Depot, corner of Plum
and Pearl Streets. The splendid Passenger Depot of the
I. & O. Railroad is about a mile nearer the business center
of the city than the Depot of any other railroad, and with-
in a few squares of the Postoffice and principal hotels and
Steamboat landings.J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.**Philadelphia, Wilm'gton & Baltimore****RAILROAD!****FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**1.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
(Express); 2.30 P. M.; 11.30 P. M. night.
On Sundays, 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West, 7.35 A. M.; 9.20
A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
P. M. (Express)SUNDAY TRAINS - Leave Philadelphia for Baltimore
at 4.15 A. M. and 11.00 P. M. Leave Baltimore for
Philadelphia at 8.25 P. M.Leave Philadelphia for Wilmington at 11.30 P. M. Leave
Wilmington for Philadelphia at 8.30 P. M.**The Old And Reliable Route.****Through to Pittsburg without Change.**The PITTSBURG, FORT WAYNE & CHICAGO RAIL-
ROAD, in connection with the Cincinnati, Hamilton &
Dayton, and Little Miami Railroads, still continue to trans-
port produce and merchandise between Cincinnati and
Pittsburg, Philadelphia, Baltimore, New York or Boston,
and all Eastern points with the greatest promptitude and
dispatch.For Rates, Bills of Lading, or any information desired,
shippers will please apply toH. W. BROWN & CO.,
No. 27 West Third Street, Cincinnati.W. P. SHINN, General Freight Agent,
Pittsburg, Pa.**LOUISVILLE & CINCINNATI
SHORT-LINE RAILROAD.****Time only 5 hours****Fare Only \$3.50—Transfer from Hotel or
Residence to Depot, in Covington, Free.****THE SHORTEST ALL-RAIL ROUTE TO**
Louisville, Nashville, Memphis, New
Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail	7.00 A. M.	2.30 P. M.
Evening Express	5.45 P. M.	9.00 P. M.
Walton Accommodation	4.00 P. M.	9.30 A. M.

The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
the Walton Accommodation, offer great inducements to the
citizens of Cincinnati and Covington who wish to pur-
chase country residences or small farms for gardening.
This train leaves late in the afternoon, and arrives early
next morning, giving all day to attend to business. For
further information as to routes, low fare, &c., please apply
at No. 1 Burnet House or Depot, Covington, Ky.

SAM'L GILL, Gen'l Sup't. Louisville.

CENTRAL R. R. OF NEW-JERSEY.Passenger and Freight Depot in New York, foot of Lib-
erty st., connects at Hampton Junction with the Dela-
ware, Lackawanna, and Western Railroad, and at Easton
with the Lehigh Valley Railroad, and its connections,
forming a direct line to Pittsburg and the West, without
change of cars.**ALLENTOWN LINE TO THE WEST.**Sixty miles and three hours saved by this line to Chicago,
Cincinnati, St. Louis, etc., with but one change of cars.
Silver Palace cars through from New York to Chicago.**FALL ARRANGEMENT.**Commencing August 30, 1869. Leave New York as
follows:6:55 a. m.—For Easton, Bethlehem, Mauch Chunk,
Williamsport, Wilkesbarre, Mahoney City, Tuckahoe,
&c.

7:15 a. m.—For Somerville.

8:30 a. m.—For Flemington, Junction, Stroudsburg,
Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.12 m.—For Flemington, Easton, Allentown, Mauch
Chunk, Wilkesbarre, Reading, Columbia, Lancaster,
Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.3:30 p. m.—For Easton, Allentown, Mauch Chunk
and Belvidere.

4:30 p. m.—For Somerville.

5:25 p. m.—For Somerville and Flemington.

6 p. m.—For Easton and intermediate stations.

7 p. m.—For Somerville.

7:20 p. m.—EMIGRANT—Stopping only at the principal
stations.

9:00 p. m.—For Plainfield.

11:50 p. m.—For Plainfield, on Wednesdays and
Saturdays only.**FOR THE WEST.**9 a. m.—WESTERN EXPRESS, daily, (except Sundays,)
for Easton, Allentown, Harrisburg, and the West without
change of cars to Cincinnati or Chicago, and but one
change to St. Louis. Connects at Harrisburg for Erie and
the Oil Regions. Connects at Junction for Stroudsburg,
Water Gap, Scranton, &c. Connects at Phillipsburg for
Mauch Chunk, Wilkesbarre, &c.5 p. m.—CINCINNATI EXPRESS, daily (except Satur-
days,) for Easton, Bethlehem, Allentown, Reading, Harris-
burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars
to Pittsburg and Chicago. Connects at Junction with
Delaware, Lackawanna and Western Railroad for all sta-
tions to Scranton. This train will be run to Easton on
Saturdays as a local train, stopping at principal stations.8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,
Allentown, Reading, Harrisburg, Pittsburg, and the West
—connects at Harrisburg with train for Williamsport, Erie,
&c.Sleeping cars through from Jersey City to Pittsburg
every evening.Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15,
8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:10, 2:10
3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25,
7:10, 7:20, 7:40, 8:10, 9:00, 9:40, 10:45, 11:50 p. m.Tickets for the West can be obtained at the office of the
Central Railroad of New Jersey, foot of Liberty st., N. Y.;
at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at
No. 10 Greenwich st., and at the principal hotels.

R. E. RICKER, Superintendent.

H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - } Editors.
T. WRIGHTSON, - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, -THURSDAY, NOVEMBER 18, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

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Financial Affairs.

This topic is interesting to everybody, and a great many minds are employed in discussing it, and trying to find some mode of speedily paying the debt, and of avoiding, if possible, the panics and fluctuations which a suspension of specie payments necessarily produce. After all the ingenuity we can put upon the subject, and all the plans and remedies we can devise, there still remains the sad truth, that we have an immense debt, and we are in a state of suspended payments.

But this condition of affairs is not irremediable by any means. The remedies for it are very simple: to pay the debt and to resume specie payments. We confess that we know no other way to get out of the difficulty, and the sooner we do this the better for us. All the trouble is in the mode and the time. As to time, we think it is precisely the case of a man about to take a shower bath. He stands trembling, fearing to pull the string, and the sooner he takes it the better; and when he comes out, how the blood circulates—how the skin glows—how the heart warms up!

Gold is now at 27, and it requires only a little courage and resolution now to reach specie payments. But let us turn to the debt.

Many people have made calculation of how the debt can be paid off. There is no difficulty in this, but there are two difficulties which meet all calculators in the face. The first is, that we no sooner get a little ahead than the people immediately demand a reduction of taxes—and "the goose which lays the golden egg is killed." If we would let the taxes remain where they are, or at any fixed point, so great is the growth and resources of

the Nation, that we should soon have large surpluses, and pay off the debt; but there is such hot haste to take away the revenue that we can not count upon having a surplus. Still, as we have a surplus now, we trust it may remain a little while.

The second difficulty is, that so large a part of the capital of the country is absorbed in bonds, and those bonds, something like currency in large notes—convertible into smaller currency by loans with a margin, that this species of debt is either absorbing, or letting out the actual currency of commerce.

From these two great evils arise, first, that with an apparently great amount of currency, we sometimes seem not to have near enough; and secondly, that these loans on bonds, with a margin, are the means of sometimes locking up currency, on the one hand, or of relieving it suddenly on the other, so that there comes the sudden variations in the money market which we see in the commercial centers. This difficulty is very great, and one which is difficult to remedy. And now, our ideas on the matter are these:

1. Pay off the debt by as rapid reduction with surplus revenue as we can. In the coming year the annual revenue will scarcely be less than four hundred millions. It will be something like \$170,000,000 on the tariff (for we have no idea the tariff will be seriously reduced to please British manufacturers) and \$230,000,000 on internal revenue. With an economical administration (as we believe there will be) we can have a surplus of \$150,000,000. In seven months of Grant's administration \$64,000,000 have been paid, which is at the rate of \$110,000,000 per annum.

But we will suppose that some taxes are taken off, and that the surplus may be made \$80,000,000 per annum, and this can be done without the slightest difficulty. Now, let the debt be put at \$2,400,000,000, how long would it take to pay it off? A thousand millions would be paid off in ten years, and the whole in twenty years, and that is quite fast enough. We say, then, let Grant and Congress go on, just as they are going on, and the debt will be paid off.

2. But, in order to facilitate this progress, and especially to relieve the people of a portion of their burdens, we would reduce the interest. If money be worth in the great money markets less than 6 per cent. (and it is not worth more than 5 and probably less at this time) then convert the bonds of the Government into 5 per cent, or $4\frac{1}{2}$ per cent. (we believe the last perfectly practicable), and we save thirty millions a year in interest, and that would go far towards paying the debt at an early day. This is the course taken by the English Government, and we think a wise one.

3. The second great difficulty we described was the fact that an immense amount of Government bonds were active agents in the

money market, now causing excess, and then scarcity of money. This is a great evil, and what can be done about it. The evil consists in its being an active agent. If it could be put into such a form, that while it represents the debt, it could not be used for speculation, it would undoubtedly go so far to relieve this difficulty.

Our fellow citizen, Dr. J. H. PULTE, proposes that the Government should invite, or require the investment of trust or charitable funds, or funds held by order of Court, to be deposited with the Government, and for them the Government should give certificates at 5 per cent. interest. As these bonds would be held by trustees, or parties who could not make loans on them, they would be inactive; that is, withdrawn from the money markets. A bill is already before Congress for that purpose, prepared by JUDGE LAWRENCE, of Ohio, and may be enacted. Let us suppose it is done. What effect will it have? Dr. PULTE supposes that \$1,250,000,000 would be withdrawn in this way. We fear this is much exaggerated. We have no accurate statistics on this subject, but there are some data for an opinion. The savings banks hold about three hundred millions; and it may be, that the large trust and life insurance companies hold three hundred millions more. The sums to be derived from the Court funds will probably be much less than is expected from this source; that where these sums are large the Courts usually order them deposited in the great trust companies or savings banks. If six or seven hundred millions of this class of funds can be had to invest in un-negotiable United States certificates, we should think it the utmost to be expected; but this would be a great relief to our money markets, and a check on money speculations.

We, therefore, hope the experiment may be tried. It will probably do good. But our great reliance is, that the people will have firmness and integrity enough to keep the taxes at such a rate as will supply a surplus, and apply that surplus to the debt. A permanent policy of this kind will enable us to reduce the taxes considerably at the end of five years—pay half the debt at the end of ten years, and put this country in a better financial condition than it ever was in. But all this requires a moral as well as a political integrity and stability. We must stand up as a people firmly and honestly to our obligations—meet them like men, and prove that the greatest nation in the world, is also the nation of the greatest moral courage, and the highest idea of public virtue.

BALLOU'S MONTHLY MAGAZINE.—We have received the December number of this Magazine. It is one of the cheapest and best of family visitors. The publishers make great promises for the coming year. Its price places it within reach of all, only \$1.50 per year. Elliot, Thomas & Talbot, publishers, Boston, Mass.

Northern Pacific Railroad.

CONVENTION AT SAGINAW.

A call has been issued for a convention on the 23d of November, 1869, at East Saginaw, in the interest of the Northern Pacific Railroad, and for the purpose of securing a connection with the roads of the Eastern States by the way of the Northern Peninsula of Michigan, thus passing through the great mineral region south of Lake Superior, and thence via the straits of Mackinaw and the Lower Peninsula of Michigan to Saginaw, Detroit, Toledo, etc. The States of Iowa, Minnesota, Wisconsin, New Jersey, New York, Connecticut, Rhode Island, Massachusetts, Maine, New Hampshire, Vermont, and the Province of Canada.

The questions to be submitted to the convention are as follows:—

1st. Is there any necessity for more Railroads across the continent? if so, what route should be adopted?

2d. Is there any advantage to be secured to the Northern Pacific road by reason of its reaching water communication sixteen hundred miles from the Atlantic; at the head of Lake Superior.

3d. Comparative cost of transportation by rail, and by water; time being considered money.

4th. Puget Sound as a western and Portland as an eastern terminus of the Northern Pacific Railroad.

5th. The route by the Straits of Mackinaw; as it is the shortest and most practicable? will it open up and develop a country rich in soil, timber and minerals? and by reason of which, will it secure a vast amount of local traffic?

6th. Do the Central and Union Pacific Railroads supply such advantages to the country, as to render it inexpedient for the Government to encourage the building of a Northern and Southern Pacific Railroad?

7th. Should the Government, in the present state of finances, make further grants to railroads?

8th. The character of the country on the line of the Northern Pacific.

9th. The valleys of the Upper Mississippi and the Red River of the north.

10th. The western slope of the Rocky Mountains to the harbor of Puget Sound.

11th. The shortest line between China and Europe.

12th. The Railroads of the United States; do they tend to settle, develop and enrich the country?

13th. Would the granting of a subsidy to two more Pacific Railroads retard or expedite the liquidation of the national debt?

14th. The railroads of Michigan as the shortest connecting link between the Northern Pacific Railroad and the roads from the East and South.

15th. The duty of the Government in reference to the future disposition of the public domain.

16th. The present and prospective value of the agricultural, mineral, saline and lumber products of Northern Michigan.

17th. The future of the North-west.

The committee might very properly have added the following:—

18th. What effect would the early construction of the Northern Pacific Railroad have in extending the influence, power and dominion of the United States over the Territory of the Hudson's Bay Company, lying west of Lake Superior and north of the United States line, which includes the rich valleys of the Saskatchewan and the Red River of the North, a territory equal to eight or ten States of the size of Ohio, and including the best wheat region of the continent.

This consideration alone is of sufficient importance to justify any outlay that may be necessary for the completion of this great work. The manner and method of doing it by Congress, however, has been so fully discussed by us in the RECORD during last winter and before, that our views are pretty well known. No hope need be entertained by any corporation of any further issue of bonds by the Government in aid of the construction of railroads. Still the roads should be built and the sooner the better; and the Government should aid in their construction through the Public Domain not only by land grants, as they have done, liberally, with the Northern Pacific from Puget's Sound to the head of Lake Superior, but also by such a judicious system of guaranteed interest on the bonds of the company as would render them marketable at par. This we deem the least objectionable form of subsidy that can be resorted to by the Government for the development of this territory. If the convention acts wisely it will avoid asking for what can not be obtained, and confine its requests to such schemes as are likely to meet with favor.

BASIL DUKE, the editor of a Louisville paper, and several other gentlemen who are in favor of building up Louisville by placing obstructions in the highways of commerce, were at Nashville on Saturday trying to prevent the passage of a bill through the Tennessee Legislature, granting the Cincinnati Southern Railroad Company the right of way. The people of Tennessee and of the South having been extensively blackmailed by Louisville, the influence of the lobby delegation from the latter at Nashville will not prove formidable. This movement, however, foreshadows what may be expected when application is made for a charter to the Kentucky Legislature. If Louisville can prevent it, capitalists will not be permitted to spend money in Kentucky for the benefit of that State, without the permission of the managers of that full blown monopoly, the Louisville & Nashville Railroad.—*Cin. Gaz.*

The entire State of Kentucky has been subjected to pay tribute, to the leading city of the State, until it has become irksome and oppressive to the people of the interior who think they can do better by buying and selling elsewhere. Although the Louisville & Nashville Railroad will make a desperate and spasmodic effort to defeat the development of the resources of the State, we have no doubt the good sense of the Legislature will prevail, and allow all the money spent within

the State that parties choose to bring there for that purpose. The effort at Nashville, on the part of Kentuckians was in bad taste, equally so with the threatened purposes of resistance in Kentucky on the part of a certain grouty and sore headed Editor of Cincinnati, who had no objections to the Ferguson act, or its constitutionality, until Chattanooga was named as the Southern terminus, which seriously conflicted with "my Knoxville speech."

MUSIC.—JOHN CHURCH & Co. have placed on our table, a song for the season, which can not fail to become popular, entitled "Under the Chestnuts;" also a burlesque comic by C. W. Hunt. "New Jerusalem, Cruel Jane Jemima." "Those Dear Old Songs" by Miss Mollie Mosher, is pathetic, and will be bought by lovers of good music. The "Sweet Rose Polka Mazurka," although every body may not consider it as sweet as its name, yet it is sweet enough to become a favorite. The best way is to try them.

Cincinnati Southern Railroad.

A Bill Passes First Reading Granting the Right of Way Through Tennessee—What the Trustees Propose to Do.

[From the Nashville Banner of the 13th.]

As was announced in yesterday's Banner, Messrs. Ferguson, Heidelberg and Bishop, of the Board of Trustees of the Cincinnati Southern Railroad, together with Mr. West, a well known citizen of Cincinnati, were met here yesterday by the following committee of the citizens of Chattanooga: W. P. Rathburn, John L. Divine, Wm. B. Gaw, T. B. Kirby, R. Henderson, Tomlinson Fort and A. F. Dunlevy.

After consultation, a bill was introduced in the House, embodying the desires of the Board of Trustees in the matter, which passed first reading, and was referred to the Committee on Internal Improvements.

The bill simply grants the Trustees the right to survey and locate a route for the railway from Cincinnati to Chattanooga, through any of the counties of Tennessee, from Warren on the west to Anderson, Knox and Blount on the east. It authorizes any county through which, or any city or town through or near which the road may pass, to levy a tax in the manner provided by law, for donations to aid in the construction of the road, or subscriptions to the bonds which the Trustees are authorized to issue, and for whose payment the faith of Cincinnati is to be pledged, with a mortgage on the entire road as additional security.

The office of the road in Tennessee is to be at Chattanooga.

No State aid of any kind is asked or desired, but simply the privilege of making surveys, and of locating and building the road at the expense of Cincinnati, with such aid as the counties and towns along the line may be disposed to give on the most eligible route between Cincinnati and Chattanooga.

It is not the intention of the Trustees to run the road, but only to acquire the right of way, lay the track and erect the necessary buildings, when they will lease it to some responsible company who will supply the rolling stock and conduct the business of the road.

Their intention is to make a main trunk line connecting the system of Northern railways centering at Cincinnati with the Southern system of railways which converge at Chattanooga, upon the most direct line; believing that, when this is accomplished, private capital, both at Cincinnati and elsewhere, will readily seek investment in lateral lines tapping this trunk, and connecting with it the rich and productive sections of Tennessee and Kentucky, on each side of the proposed line to Chattanooga, and making important feeders to the line.

Among these feeders they justly regard the Tennessee and Pacific Railroad as one of the most important, and the Trustees seem confident that its importance would lead to its early completion, and thus place Nashville in more direct communication with Cincinnati. They regard the trade of Nashville as of great importance, and hope that the Cincinnati Southern Railroad, with the aid of the Tennessee & Pacific Railroad, will unite the two cities in intimate commercial relations.

The proposed bill was drawn by Mr. Ferguson, one of the ablest lawyers in Cincinnati, and the author of the "Ferguson law," by virtue of which Cincinnati is authorized to construct her Southern Railroad. It is in strict accordance with the laws and general policy of the State, and should meet with no opposition to its immediate passage, as it is calculated to confer lasting benefits upon this State, and indeed upon the entire South. Contrary to the general custom of parties asking railroad charters of the General Assembly, the Trustees do not ask the State to give them money, but merely to allow them the privilege of spending their own money in our midst.—With our present financial condition, we do not believe that any member of the Legislature can do otherwise than heartily support all measures which, like this, encourage the distribution of foreign capital in our midst.

Railroad Earnings for October and for Ten Months of the Year.

The monthly statement of railroad earnings for October and the past ten months of the year is of more than usual interest at the present time, in consequence of the continued depression in prices at the Stock Exchange and the frequent assertions that this is the result of decreased traffic. As a rule, the returns of October, 1869, do not show a wide variation from those of the same month last year. The principal exceptions to this are the Chicago and Northwestern Company, which reports a decrease of \$155,835, and the Ohio and Mississippi, which returns an increase of \$42,715.

Milwaukee and St. Paul returns the largest earnings of any one month since the consolidation of the road, with the single exception of October, 1867. Lake Shore and Michigan Southern shows an increase of \$29,651 and Michigan Central a decrease of \$21,048.

The October earnings, upon the whole, must be considered exceedingly favorable, from the fact that no general decrease is shown compared with October, 1868, which was probably the most favorable month that the Western roads have ever known; the latter fact may be seen by an examination of the comparative table of monthly earnings for three years past, which will be found on a subsequent page. The earnings of October, 1868, were disproportionately large and fell off rapidly in the succeeding month. The following will show the figures for the two

months and the decrease on the principal Western roads:

	October. 1868.	November. 1868.	Decrease.
Chicago & Alton	\$513,745	\$499,563	\$94,677
Chicago & Northwestern	1,570,066	1,135,334	434,732
Chicago & Rock Island	591,209	421,509	169,620
Illinois Central	931,529	685,400	246,129
Michigan Central	511,820	410,825	100,995
Milwaukee & St. Paul	1,037,463	556,917	480,546
Toledo, Wabash & Western	429,938	323,279	106,619

We observe here a uniform decrease, ranging from \$100,995 on Michigan Central, to \$480,546 on Milwaukee & St. Paul, and as a natural consequence of that position of affairs in those months of 1868, we should expect to see a falling off in the October earnings of this year compared with last, and an increase in the month of November. So far as the earnings for the first week of November have come in, this anticipation is fully warranted. Chicago and Northwestern shows a decrease of only \$9,893, which is quite insignificant compared with any previous week for a long time past, and this road, as we have often stated, has special cause for a falling off in earnings by the reason of the loss of freight for construction of the Union Pacific road, which was last year a very large item. Chicago and Rock Island shows an increase of \$44,486, Lake Shore and Michigan Southern an increase of \$24,000, and Milwaukee and St. Paul an increase of \$50,858, making a total increase on the latter of \$142,000 in the two weeks past. These are the only roads which have reported at the time of writing, and they promise very favorably. In the table following it will be noticed that in addition to the roads heretofore reported the Pacific Railroads are given for 1869, though no comparison with a previous year can be made:

EARNINGS FOR OCTOBER.

	1869	1868.	Inc.	Dec.
Central Pacific	\$622,000	\$.....	\$.....	\$.....
Chicago & Alton	403,108	503,745	.....	40,636
Chicago & Northwestern	1,414,231	1,570,066	.....	155,835
Chic., R. I. and Pacific	581,000	591,209	.....	10,209
Clev. Col. Cin. and Indianapolis	293,615	273,296	319	.....
Illinois Central	804,934	901,539	.....	6,696
Kansas Pacific	287,000	.....	.....	.....
Lake Shore and Michigan Southern	1,279,602	1,249,950	29,651	.....
Marietta and Cin.	132,869	123,065	7,804	.....
Michigan Central	490,772	511,820	.....	21,048
Milwaukee and St. Paul	1,039,811	1,037,463	2,343	.....
Ohio & Miss.	328,044	283,329	44,715	.....
St. Louis, Alton, and Terre Haute	205,750	210,473	.....	4,723
Toledo, Wab., and Western	422,368	429,898	.....	7,530
Union Pacific	678,617	.....	.....	.....
	\$9,333,721	\$7,707,944	\$1,625,777	\$240,677

* Exact earnings in 1868, approximate in 1869.

A more correct and fairer estimate of the earnings of our railroads can be made, by taking the past ten months of the year and comparing the totals with the same period in 1868, and in this comparison it must still be remembered that the traffic of 1868 was unprecedentedly large and much in excess of 1867. The table following shows the earnings for the period referred to, and all the roads continue to report a considerable increase in their earnings from January 1 to November 1, with the single exception of Ohio and Mississippi, and this company has reduced the previous deficiency by an increase of \$14,000 in the month of October. The Lake Shore and Michigan Southern consolidated roads report an increase of \$720,943 for the ten months, the particulars of which, belonging to separate companies previous to the consolidation in August last, had not heretofore been published:

EARNINGS FROM JANUARY 1 TO NOVEMBER 1.

	1869.	1868.	Inc.	Dec.
Chicago and Alton	\$3,926,394	\$3,707,429	\$118,965	....
Chicago and Northwestern	11,403,664	11,283,452	120,212	....
Chic., R. I. and Pacific	4,411,309	3,947,439	463,870	....
Clev., Col., Cin. & Ind.	2,601,789	2,425,483	176,306	....
Illinois Central	6,029,656	6,440,741	538,915	....
Lake Shore & Michigan Southern	10,740,343	10,024,400	720,943	....
Marietta & Cincinnati	1,150,174	1,053,548	96,656	....
Michigan Central	3,926,202	3,768,318	157,884	....
Milwaukee and St. Paul	6,852,027	5,491,848	3,679,179	....
Ohio and Miss.	2,362,620	2,446,542	.....	82,922
St. Louis, Alton & Terre Haute	1,656,719	1,591,983	64,736	....
Toledo, Wabash & Western	3,529,418	3,290,487	238,931	....
Total for ten months	\$58,595,315	\$55,501,640	\$3,177,597	..

We have endeavored to state above the exact position of our railroads as established by the figures in regard to their earnings; and such a statement seems to be particularly called for at the present moment, from the many rumors and misrepresentations which have been circulated with intent to damage the credit of the companies, or for speculative purposes—*Financial Chronicle*

Port Huron and Chicago Railway Line.

The sagacity and foresight of the projectors and engineers of this line, in determining on its present location, are now evidenced by the usual amount of local and municipal pecuniary aid which has been, and is being, extended to it, by the communities through and near which its route has been laid. We have not at present before us the figures showing the amounts which have been voted in the Indiana and Illinois sections of the line, but in the Michigan portion alone there has already been donated as follows:

By Battle Creek City	\$85,800
Battle Creek Town	14,600
Benton	7,800
Bellevue	21,100
Carmel	14,400
Climax	15,000
Eaton	13,900
Flint	30,600
Lansing	22,200
Lapeer City	13,000
Marcellus	15,000
Penn.	15,000
Penfield	10,700
Port Huron	42,000

Other towns in same section soon hold elections for same purpose, and will doubtless more than double the above amount, as in all cases, thus far, the proposition, when acted on, has been adopted almost unanimously.

The value of public aid, given in this manner to a road, can not be justly measured by the figures which represent the number of dollars thus added to the Treasury of the corporation; for, not only it is a gift of so many yards of excavation, or tons of iron, reducing by just so many hundred thousand dollars the requirements to be met by loan, and thus rendering the loan just so much more secure, and consequently easy of negotiation, but it is also an assurance that the people of the cities and towns upon the route are determined to do all in their power to hasten the completion of the enterprise, and to sustain it when completed.

The railway lines, which have realized the fullest measure of success, are those which not only possess the advantage of affording

short and practicable routes between distant commercial centers, but which, in addition to the through freight and passenger traffic which they thus secure, also derive large accessions from the local business of the country through which they pass. This way traffic, which is so essential, can only be gathered from a country rich in natural resources, and peopled by liberal and enterprising citizens who will improve its agriculture, develop its mines, cut its forests into lumber, utilize its streams, establish mills, furnaces, factories and workshops, and more than all, give of their means to provide such lines of communication as will ensure easy and rapid conveyance of all their products and manufactures to a market. And there is no criterion by which such a people may be known more surely, than by the alacrity and liberality with which they respond to requests for material aid to railway enterprises in their own vicinity.

We regard, then, the success of the Port Huron and Chicago road as an assured fact. As a through line between New York and Chicago it commends itself by an unanswerable argument, viz: that it is the shortest of all the routes connecting with either the Erie or New York Central roads.

Connecting at Sarnia, (in Canada, opposite to Port Huron,) with the Grand Trunk, or Great Western Railway of Canada, the distance from Chicago to New York is twenty-one miles less than by either the Michigan Central or Southern lines. In addition to which, trains on this road will be able to cross the Peninsula of Michigan at an unusually high rate of speed, because the most abrupt grade on the line is less than forty feet to the mile, and the sharpest curve is 1,910 feet radius. By these facts, it will be made evident to all who have any knowledge of engineering, that very great speed may be attained, not only with comparative immunity from danger of accident, but also at a much reduced expense in the way of fuel, and wear and tear of machinery.

To these advantages as a through line, it also adds those of a local nature. There are certainly Railroads in the United States, which equal it in this particular, but it is also true that few excel it.

For fertility of soil its region is probably surpassed by a portion of that traversed by the Illinois Central Railroad, but by no other in America, (and even those Illinois prairies are behind Michigan in production of wheat.)

Its coal measures are exceedingly rich, though of course inferior to those of Pennsylvania, and salt and gypsum are largely produced in the Grand River and Saginaw Valleys.

Among the articles considered most profitable as railroad freight, is lumber, and in this Michigan is pre-eminent, particularly that portion of the State which is traversed by the eastern end of this line, (there being now annually manufactured in the single county of Genesee more than twenty millions of feet,) and the production of all this section will be very largely increased, because the Port Huron line affords a new means of transportation to water carriage and a market.

The municipal aid above noticed, carrying with it, as it does, an assurance of the good will and co-operation of communities which people the line, is undeserved. The road has been, and is being, pushed with great rapidity; and it has been, from the first, the determination of the officers having it in charge that no superficial or inferior work, in any particular, should be permitted. All the iron

upon the line weighs 56 lbs. per lineal yard, instead of the 50 lb. iron (often of inferior quality) which has been laid on too many of our Western roads. There has been no expense spared in the ballasting or other details of the track laying, and the road, as far as completed, has been pronounced by an old track master of the Michigan Central Road, to be fully equal to that of the last mentioned corporation.

We think the municipalities have done well in voting their aid to the line, and we think, too, that the company has fully deserved it.—*Am. R. R. Journal.*

The Pacific Railroads.

REPORT OF THE COMMISSIONERS TO THE SECRETARY OF THE INTERIOR ON THE CONDITION OF THE ROADS.

[Continued from page 403.]

SURPLUS MATERIAL.

On examining the list of surplus rolling-stock, materials and supplies, submitted by the Company, the Commission is of the opinion that, after making a liberal allowance, this Company have more than \$1,000,000 worth of such property on hand beyond the immediate future wants of the road. In Appendix A will be found a list of the maps, papers, and statements submitted by this Company.

Report on the Union Pacific Railroad, with an Estimate of the Cost of Completion.

LOCATION.

The location of the accepted line is highly creditable to the engineers of the Company. There are fewer errors than might reasonably have been expected, considering the length of the road and the difficulties encountered, and none which, in our opinion, the Government should require corrected. There are deviations from this accepted line at the Promontory Mountains and at Uintah which should be corrected; and at Omaha the bridge line should be built to avoid the present heavy grade. The adoption of this line removes the necessity of reducing the grades on the present location, as heretofore required. An estimate of the cost of these changes is made.

ROAD BED.

The road bed is, a large part of the way, of proper width, both in cuts and embankments, though there are some places where a greater width is needed on the embankments, for which an estimate is made.

TUNNELS.

There are four short tunnels, three through solid rock, not arched, and one arched with timbers. The Commission have not deemed it necessary to provide for arching with masonry.

BRIDGES, TRESTLES, AND CULVERTS.

Several of the high trestles between Blue Creek Station and Promontory ought to be filled up at once. They were evidently intended as temporary expedients to gain time in opening the roads below Echo, on the 971st mile, two high trestles and the two of the same character near Piedmont on the 934th and 936th miles should be filled within the coming year. The high trestle at Dale Creek is a good structure, and no estimate has been made for filling this, it being a first-class work of the kind. The bridges are generally well built and of good materials.

There are, however, several of 100 and 150 feet span on Bitter Creek, where a water way of 40 feet would have been ample. The masonry of these is of an inferior character. The Company are now engaged in changing the course of the stream so as to render eight or ten of them unnecessary, and will fill the crossings with embankments. An estimate is made for completing those which are to remain. Some of the Howe truss bridges like several of those on the Central Road are light in their suspension rods for the maximum load of a train of locomotives. Several should be strengthened, for which estimates are made. In reference to many of the trestles not heretofore mentioned, and culverts which we have estimated for replacing, we would remark that practical railroad managers, having due regard to economy, would not replace them by permanent structures, so long as they are safe and reliable, which, in the opinion of the Commission, will be four or five years for many of them, at the end of which time experience will point out positions and size of water ways with much more certainty than can now be determined.

SNOW FENCES.

Some protection against snow has already been provided, and much more will be necessary. The officers of the road seem to be aware of the importance of these structures, and were engaged in preparing the material for them. It will undoubtedly be expedient to erect snow sheds at some of the exposed points, but experience only can locate them. Properly, the saving of expense in operating and repairs will be so large that no railroad similarly situated can afford to be without them. We think, therefore, that it will be safe to leave all this part of the work in the hands of the Company, to be done as fast as their experience shall point out the right places and the character of the structures to be built.

THE TRACK.

The track is generally very good, but a few miles were observed where the heavy traffic near Omaha had worn the rails considerably. To replace them is a matter of ordinary repairs, and not of construction, this part of the road having been in operation for four years. About 450 miles of the track is laid with rails weighing 50 pounds per lineal yard, and with wrought-iron chairs; the remainder is of 56 pounds and laid with fish joints. The cross-ties are generally of pine, of fair size and good quality, excepting those on about 400 miles immediately west of Omaha, where originally a large proportion were of cotton-wood. Many of these have been replaced with pine, oak, and cedar, but a large number are still in the track. A part of the cost of replacement belongs to the repairs of the road, but a portion should be borne by the construction account, as the cross-ties were originally inferior; \$100,000 above the ordinary repairs is estimated for their replacement, the Company now having a large number on hand for that purpose. The cross-ties number from 2,300 to 2,640 in each mile of the track.

SIDINGS.

The sidings are ample for the business of the road amounting to fully nine per cent. of its length.

BALLAST.

A considerable portion of the road is well ballasted with good material. Quite a large amount is, however, still needed, especially

between Promontory and Ogden, and in the Platte Valley. For the latter it can only be obtained by very long hauls. Still, we regard it so important as to justify us in estimating the expense of procuring it.

STATION-HOUSES AND WATER TANKS.

The station-houses are of good character, properly located, and sufficient in number to accommodate the business of the road. The Company have also erected at convenient points on its line several good hotels and eating-houses for the accommodation of passengers. There are several long intervals between water tanks, but the Commission is satisfied all that is practicable is being done by the Company to obtain an abundant supply of good water.

COAL.

The discovery of good coal in large quantities, easily accessible at several points on the line of this road, is of great value in reducing the cost of operating.

MACHINE-SHOPS AND ENGINE-HOUSES.

At several places there are permanent machine-shops, well constructed and fully supplied with machinery and tools. These are properly located. We have estimated for building one more at the proposed junction of the two roads. The engine houses are generally of stone or brick, and of sufficient size. There are those points at which others will be required, for which estimates are made.

EQUIPMENT.

There are upon the line of the road 149 locomotive engines, 26 first-class and 15 second-class passenger cars, beside the sleeping-cars in use upon the road, but not owned by the Company; 18 baggage, mail, and express-cars; 88 caboose-cars, which can also be used as emigrant-cars; 915 box cars, 1,107 platform-cars, beside 300 leased to and used by other roads. There are three first-class passenger and two express and baggage-cars in the course of construction in the Company's shops at Omaha. The freight cars are considerably in excess of the present and immediate future wants of the roads. In view of a very large amount of material the Company have on hand at Omaha, and their ample facilities for the construction of passenger cars, we have made no estimate for additions to this class of equipment.

THE TELEGRAPH LINE.

The telegraph line and stations are sufficient for present purposes, though many of the poles are not of the most durable material.

ESTIMATES FOR SUPPLYING DEFICIENCIES OF THE UNION PACIFIC RAILROAD, FROM PROMONTORY TO OGDEN.

Ballasting the track.....	\$46,000
Widening the embankments.....	6,400
Filling high trestles between the 1076th and 1085th miles, inclusive.....	38,000
Abutments and piers at Bear River Bridge, in addition to the materials on hand and work done.....	5,000
Abutments on the Ogden River Bridge, in addition to the work done and material on hand.....	4,000
Filling up and making permanent water-ways at 44 short openings.....	20,000
Filling up and making permanent waterways at 3 large openings.....	1,200
Filling and putting in straining beam bridges and abutments at three large trestles.....	5,400

Correcting construction and reducing grades to conform to the accepted location between the 1080th and 1085th miles, inclusive..... 80,000

Total.....\$206,000

ESTIMATES FOR SUPPLYING THE DEFICIENCIES OF THE UNION PACIFIC RAILROAD FROM OGDEN TO OMAHA.

Ballasting the track from Ogden to Echo.....	\$5,000
Echo to Bryan.....	70,000
Bryan to Rawlins.....	90,000
Rawlins to Laramie.....	85,000
Laramie to Ogallala.....	70,000
Ogallala to Omaha.....	116,500
Widening embankments between Ogden and Echo.....	3,600
Echo and Bryan.....	31,500
Bryan and Rawlins.....	12,500
Rawlins and Laramie.....	6,000
Laramie and Ogallala.....	7,000
Ogallala and Columbus.....	18,000
Columbus and Omaha.....	9,000
For a freight and passenger depot at the proposed junction with the Central Pacific Railroad.....	10,000
For engine houses of brick or stone at said junction.....	40,000
For machine shops at said junction.....	50,000
For an engine-house at Green River of brick or stone, in addition to material already on hand.....	20,000
For an engine-house of brick or stone in the vicinity of Wahsatch or Evanston.....	20,000
For replacing cottonwood ties in addition to repair account.....	100,000
Strengthening Pappillion Bridge.....	500
Widening the pier and changing the bridge at Crow Creek.....	1,000
Rebuilding the piers and abutments at Laramie.....	6,000
For masonry and erecting a bridge at the Little Laramie.....	3,000
For improving abutments at Rock Creek.....	1,000
For repairing masonry at Medicine Bow Bridge.....	2,500
For rebuilding and repairing the masonry of the Bitter Creek bridges.....	21,000
For abutments and piers at Green River.....	15,000
For widening pier at last crossing of Black Fork.....	1,000
For piers and abutments at Black Fork, 873d. mile.....	3,500
For piers and abutments at Black Fork, 880th mile.....	12,000
For masonry at the crossing of the Big Muddy, 890th mile.....	5,500
For masonry at crossing Big Muddy, 891st mile.....	5,500
For masonry for straining beam bridges between 946th and 949th miles, including filling trestles.....	15,000
For abutments for six 40 feet straining beam-bridges, 985th to 988th miles inclusive.....	2,400
For arch culvert.....	500
For filling trestle at Weber River bridge.....	3,000
Filling and replacing with permanent water ways, 35 small openings of trestle between Ogden and Yellow Creek.....	14,000
For filling and replacing with permanent water ways ten large openings between Ogden and Yellow Creek.....	11,000

For filling two high trestles on the 973d mile.....	12,000
For filling two high trestles on the 971st mile.....	32,500
For filling a trestle at the 970th mile.....	2,000
For filling two trestles on Yellow Creek.....	2,200
For abutments, filling and putting in a straining beam to the bridges at the 960th and 976th miles.....	2,500
For filling and replacing with permanent water ways ten small openings of trestle work between Yellow Creek and Piedmont.....	2,000
For filling the trestle at the 968th mile.....	500
For abutments and a straining beam at the bridge, and filling, at the 956th mile.....	1,500
For filling four large trestles between the 945th and 934th miles, inclusive.....	33,500
For filling and placing with permanent water ways 17 small openings between Piedmont and Bryan.....	7,000
For abutments at the crossing of the Big Muddy at the 927th mile, and abutments at the crossing of the Big Muddy at the 923d mile.....	3,000
For abutments, building and filling trestles between Bryan and Piedmont, chiefly crossings of Muddy Creek.....	32,600
For filling and putting in three culverts between Piedmont and Bryan.....	37,600
Filling and replacing with permanent water ways 40 small openings of trestle work between Bryan and Rawlins.....	16,000
Filling and replacing with permanent water ways two large openings between Bryan and Rawlins.....	20,000
Filling and replacing with permanent water ways 60 small openings of trestle work between Rawlins and Laramie.....	24,000
Filling and replacing with permanent water ways 17 larger openings of trestle work between Rawlins and Laramie.....	17,000
Filling three other large trestles and putting in culverts between Rawlins and Laramie.....	25,000
Filling and replacing with permanent water ways 125 small openings of trestle work between Laramie and Ogallala.....	57,000
Filling and replacing with permanent water ways 57 larger openings of trestle work between Laramie and Ogallala.....	29,600
For filling 18 large trestles between Laramie and Ogallala.....	50,000
For filling and replacing with permanent water ways 150 small openings between Ogallala and Omaha.....	30,000
For filling and replacing with permanent water ways 25 larger openings of trestle work between Ogallala and Omaha.....	20,000
For changing the line to the original location of Uintah.....	5,000
For reducing the grade and changing the road near Omaha.....	60,000

Total from Promontory to Omaha.....\$1,586,100

SURPLUS MATERIAL AND SUPPLIES.

After examining the lists of rolling stock, material, and supplies on hand, submitted by the Company, and making a liberal allowance for the immediate and future wants of the road, we find they have a surplus amounting to about \$1,800,000 in value.

In concluding the report, the Committee desire to state that both Companies are doing a large amount of work on their respective roads and are day by day bringing them nearer to the standard required by law. This great line, the value of which to the country is inestimable, and in which every citizen should feel a pride, has been built in about half the time allowed by Congress, and is now a good and reliable means of communication between Omaha and Sacramento, well equipped, and fully prepared to carry passengers and freight with safety and dispatch, comparing in this respect, favorably with a majority of the first-class roads in the United States.

Respectfully submitted,
HIRAM WALBRIDGE, S. M. FELTON, C. B. COMSTOCK, E. F. WINSLOW, J. F. BOYD, Commissioners.

LIABILITY OF CITIES FOR THEIR BONDS TO RAILROADS.—Upon this subject the New York *Times* gives the following: The United States Courts when appealed to, have invariably enforced the obligations of the Western cities and counties to pay their bonds issued for railway purposes, without reference to the responsibility of the railways negotiating or endorsing the bonds. In the State of Iowa it was supposed that a State constitutional defense might be interposed to the collection of these bonds, but the Federal Courts have decided otherwise, and after a prolonged and vexatious litigation, involving a conflict of jurisdiction, the following conclusion has been arrived at. We quote from the *Des Moines State Register*:

"The conflict in the decisions and orders of the State and Federal Courts on the question of the payment of certain bonds issued by various cities and counties in this State for the purpose of aiding in the construction of railroads, we are glad to know, is substantially at an end. The late decision of the State Supreme Court, in the case of Joseph Holman et al. vs. Harry Fulton, settles the question so far as any interference by the State Courts with the processes of the Federal Courts is concerned; and the Federal Courts having already determined that all the power of the Government under the control of the Court should be used to enforce its mandates for the collection of these bonds, there seems to be no other alternative than for the cities and counties who have issued their bonds to go to work in good faith and honestly to compromise or pay them.

SUITS AGAINST SOUTHERN RAILROADS.—The Washington correspondent of the New York *Times* gives the following statement of this subject: "The United States Government has filed bills in equity in the Circuit Court of the United States for the Eastern District of Tennessee against the East Tennessee and Virginia and East Tennessee and Georgia Railroad Companies, the object of which is to collect from the first-named road the sum of \$250,000, and from the last named the sum of \$356,000. The evidence of this indebtedness is bonds executed by the President of the roads, and they were given as security for the purchase of engines, rolling stock and mate-

rial turned over to the roads by the Government in August, 1863. The payment of the bonds has been delayed by the companies in the hope that they might secure from the Government some recompense for the great amount of railroad material and supplies turned over by these companies to General Burnside on his advent to East Tennessee in 1863, as well as for the use and occupation of the roads by the Union armies from 1863 to 1865. These claims against the Government amount to about \$700,000. The United States has taken the initiative to force the collection of its claims in the Courts. Both parties are willing to submit to the decision of the Courts. The prayer of the bills in equity filed by the United States is for the appointment of receivers for both roads."

RAILWAYS IN RUSSIA.—The St. Petersburg correspondent of the Boston *Herald* writes as follows:—"The railway and customs officials in Russia will put to shame those of any country we have yet visited. Our route, of near 2,000 miles, through this so-called 'savage' country, up to the time of writing, has been one continued scene of polite refinement and attention to our wants. The railway cars are simply traveling palaces—there is nothing like them in the world. The track is laid in a surpassingly substantial manner. The Emperor, in his special train, does not travel with more comfort than ourselves. Our saloon, in one case, was 10 feet square, with coaches, tables, private cabinets, etc. If you wish to go to bed, you can go up stairs; on the second floor only are the chambers. In the morning you make up your toilet as at home. The stations are splendidly fitted up, the tables loaded with all kinds of eatables and drinkables; the stops are frequent; the speed not over 25 miles per hour, so that you are not whirled through these vast spaces and endless prairies with lightning speed, but have not only time to see the country, but to stretch your legs from time to time on the platforms. In fact, you become enamored with the way they do things in Russia."

THE SUSQUEHANNA RAILROAD.—JUDGE JOHNSON'S DECISION AT ROCHESTER.—ROCHESTER, November 3.—The decision of Judge Johnson, of the Supreme Court, was filed to-day in the matter of the Albany and Susquehanna Railroad Company. It requires the receiver to pay, first, the current expenses of running the road; second, the interest due on the Company's bonds, as well as the Albany City bonds loaned the Company; third, it authorizes the payment to the receiver of the balance due the Company from the Mechanic's and Farmers' Bank of Albany, or from any other bank or person. The receiver is not authorized to borrow money on the credit of the Company without special authority from the court.

KANSAS PACIFIC RAILWAY.—A Denver, Colorado, despatch of November 3, says that under a new arrangement with the Kansas Pacific Railroad Company, J. Hughes & Co., will commence running a tri-weekly line of four horse coaches between Denver and Cheyenne, to connect with trains on the Kansas Pacific Railroad, commencing on the 16th inst.

THE GAY HEAD LIGHT.—This is the most famous of the fifty light-houses upon the Massachusetts coast. It cost sixty thousand dollars, stands one hundred and seventy-two feet above the level of the sea, and its revolving light has been seen at a distance of over fifty miles.

Railroad Items.

—The latest advices with regard to the progress of the Suez Canal are to the effect that the Bitter Lakes had on the 5th inst. about 3.20 metres wanting to bring them up to the level of the Mediterranean. Hence, as they wanted on the 15th of August five metres to bring them up to that level, it appears that they have risen 1.80 metres in twenty one days, being at the rate of about nine centimetres a day. It therefore now seems highly probable that the lakes may be filled before the 17th of November. The completion, however, of the rest of the works in time for the proposed opening on that day, is still considered in some degree uncertain.

—The Leavenworth *Commercial* of Oct. 28 says, that within two weeks the large barge belonging to the Bridge Co. at Leavenworth will commence driving piles into the bed of the river, preparatory to sinking the heavy iron tubes which are in readiness. Most of the machinery required for the pile driving is now in order, and work on the important part of the undertaking will begin without delay.

—The Northwestern Telegraph Company have commenced extending their line west from Darwin on the line of the St. Paul and Pacific road, and will continue it west as fast as the road is completed. They have also commenced building a line from Calmar west on the extension of the Milwaukee, St. Paul and Minneapolis Railway.

—A project is on foot in St. Louis to form a company to purchase the Indian Rock coal mines on Green river, Kentucky. A thorough test demonstrates that the coal from these mines makes better iron smelting directly from the ore, better malleable iron and street-car rails than any coal yet discovered on the continent.

—The Kansas Pacific Company has determined to make Wamego the permanent terminus of the first division of the road, and the engineers are now selecting the grounds for the buildings, side tracks, &c., which the company propose to erect at once.

—The St. Louis *Times* says the Hannibal & St. Joseph Railroad proposes to construct a branch on the line surveyed ten years ago for the St. Jo. & Rock Island R. R. This route runs through DeKalb, Gentry, Harrison, Mercer and Putnam Counties, tapping the Burlington & Missouri Road east of Ottumwa.

—The Cincinnati, Wilmington & Zanesville Railroad is to be offered for sale at public auction on December 1st, at the U. S. Court House in Cincinnati. The minimum price fixed by the Court is \$1,003,968.

—The rolling stock of the Hudson River Railroad consists of 89 engines, including 7 dummies; 159 passenger cars; 18 of which are second-class; and 1,057 freight cars.

—There are 8,000 employees on the New York Central Railroad.

—The Milwaukee & St. Paul Railroad Company are driving piles at McGregor for the purpose of constructing a temporary bridge, with the intent of putting up a permanent one at some time in the future.

—During the month of October over 1,000 car loads of cattle passed over the Kansas Pacific Railroad.

—J. Hughes & Co., have commenced running a tri weekly line of four-horse coaches between Denver and Cheyenne, connecting with trains of the Kansas Pacific Railroad.

—The Providence & Boston Railroad Company have ordered five hundred tons of German steel rails.

—Contractors are at work grading the Little Rock & Ft. Smith Railroad.

—The Chicago, Rock Island & Pacific Railroad have appointed Hugh Riddle their general Superintendent.

—The New York & Oswego Midland Railroad have completed their line between Oswego & Norwich, Chenango Co.

—The Des Moines Valley Railroad are laying track at the rate of half a mile a day.

A CARD.

A Clergyman, while residing in South America as a missionary, discovered a safe and simple remedy for the cure of Nervous Weakness, Early Decay, Diseases of the Urinary and Seminal Organs, and the whole train of disorders brought on by baneful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope, to any one who needs it, *Free of Charge*.

Address,

JOSEPH T. INMAN,

Station D, Bible House,

NEW YORK CITY.

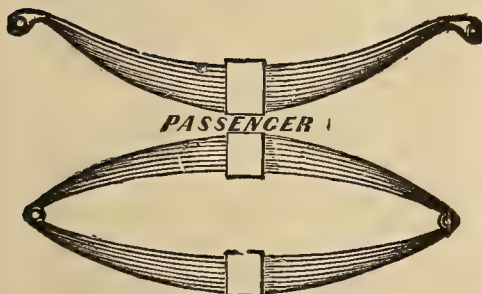
7-10-9, 13.

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THE Subscriber offers to Railroad Superintendents, Locomotive and Car Builders, a superior quality of

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Made at his shops in Philadelphia. Employing only the most experienced workmen and BEST MATERIAL, he pledges himself to furnish a Spring of the greatest elasticity, and one which shall be uniformly reliable in its carrying weight. All Springs tested to double their usual load.

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Pig Iron, Railroad Iron,

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*Bessemer Steel Rails, Axles, Tyres,
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Railroad Machine Works,

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ERIE RAILWAY.

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860 MILES without

Change of Coaches.

BROAD GAUGE, DOUBLE TRACK ROUTE

FOR—

NEW YORK, BOSTON,

Providence, Albany,

PITTSBURG, HARRISBURG

Philadelphia, Baltimore,

And Principal Points in

NEW YORK, NEW ENGLAND

—AND—

Pennsylvania.

This Railway extends from

CINCINNATI to NEW YORK, - 860 Miles.

CLEVELAND to NEW YORK, - 625 Miles.

DUNKIRK to NEW YORK, - 460 Miles.

BUFFALO to NEW YORK, - 423 Miles.

ROCHESTER to NEW YORK, - 385 Miles

AND IS FROM

22 to 27 MILES the SHORTER ROUTE.

TWO EXPRESS TRAINS DAILY

Leave CINCINNATI from DEPOT, corner Fifth and Broadway Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS,

(Sundays excepted.) Arrive Dayton 9.10 A.

M.; Urbana, 10.28 A. M.; Galion, 1.00 P. M.;

Mansfield, 1.42 P. M.; West Salem, 2.49 P.

M. (Dine). (Sleeping Coaches through to

New York); Akron, 4.25 P. M.; Ravenna,

5.10 P. M.; Meadville, 7.55 P. M. (Supper);

Susquehanna, 7.55 A. M. (Breakfast); Tur-

ner's, 1.22 P. M. (Dine); New York, 3.00 P.

M. Connects at Ravenna with Cleveland &

Pittsburg Railroad for Hudson and Cleve-

land; at Elmira for Williamsport and the

South; at Binghamton for Cooperstown,

Albany and the celebrated summer resort,

Sharon Springs, and at New York with

afternoon trains and steamers for Boston and

New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana,

1.25 A. M.; Galion, 4.00 A. M.; Mansfield,

4.44 A. M.; West Salem, 5.55 A. M. (Bkfst);

Akron, 7.33 A. M.; Ravenna, 8.20 A. M.;

Meadville, 11.16 A. M. (Dine); Hornells-

ville, 6.19 P. M. (Supper); New York, 6.30

A. M. Connects at Mansfield with Pittsburg,

Ft. Wayne & Chicago Railway for Pittsburg,

Harrisburg, Philadelphia, &c.; at Meadville

with Franklin Branch for Oil City; at

Elmira with Northern Central Railway for

Harrisburg and the South, and at N. Y. with

morning trains for Boston and N. England

cities.

New and Improved Coaches of the style peculiar to the

Broad Gauge, arranged for both Day and Night Travel,

are attached to this train at Cincinnati and run through to

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Boston and New England Passengers,

with their Baggage, are transferred FREE

OF CHARGE in New York.

The Erie Railway Company has opened a new

Ferry from their Jersey City Depot to the foot of Twenty-

third Street, New York, thus enabling passengers to reach

the upper portion of the city without the expense and

annoyance of a street car or omnibus transfer.

The scenery along the entire route of the Erie

Railway is of the most picturesque and beautiful character.

Admirers of Nature's beauties, in a daylight journey over

this Line, will find in its ever changing landscapes sub-

jects of continual admiration and interest

Baggage Check'd Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY,

Which can be obtained at the Company's Offices in Cin-

cinnati, 80 West Fourth Street, 115 Vine St., 4 Burnet

House, and foot of Broadway, (Spencer House Block) and

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L. D. RUCKER, **WM. R. BARR,**

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QUICKEST ROUTE

59 Miles in Distance Saved.

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BALTIMORE,
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NEW YORK, and
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WITH THE PRIVILEGE OF GOING TO

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J. L. WILSON, Master of Transportation.
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Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City	7 00 A. M.	9 20 P. M.
Toledo & Detroit	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail	7 00 A. M.	9 25 P. M.
Richmond & Chicago	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada	6 00 P. M.	10 30 A. M.
Hamilton Accommodation		6 45 A. M.
Richmond & Chicago	7 00 P. M.	9 20 A. M.
Hamilton Accommodation	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Burnett House Office, corner Vine and Baker streets, and at the respective depots. East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers.

JANUARY 5th, 1868.

Cincinnati to St. Louis Without Change of Cars.

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the Illinois Central Railroad.

RAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymr Acc.
Leave CINCINNATI	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENNES	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Arrive SANDOVAL	9 55 "	10 50 "	6 40 "
Arrive ST. LOUIS	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O'H.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 132 Vine Street, Corner Front and Broadway; and at Depot, Foot Mill Street.

C. E. FOLLET, Gen. Passenger Agent
J. W. CNLOGUE, General Superintendent.

Best Route to St. Louis and Chicago

INDIANAPOLIS, CINCINNATI, AND LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS, CAIRO, CHICAGO,

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West, North west and South-west.

ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail	6 30 am	12 20 am
St. Louis and Springfield Express	3 35 pm	8 20 am
*St. Louis and Springfield Express	10 35 pm	3 30 pm
Lawrenceburg Accommodation	10 00 am	2 35 pm
Lawrenceburg Accommodation	4 35 pm	8 05 am

*The 10.35 pm. train will leave Sundays, but not on Saturdays.

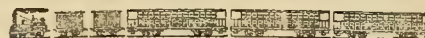
VIA WHITEWATER VALLEY DIVISION.

Chicago Mail	7 00 am	10 00 am
Chicago Express	6 30 pm	9 40 pm
Harrison Accommodation	6 30 pm	6 40 am

Through Tickets can be obtained at the Burnett House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

Philadelphia, Wilmington & Baltimore RAILROAD!



FOUR PASSENGER TRAINS DAILY

TRAIN LEAVE PHILADELPHIA for the SOUTH DAILY

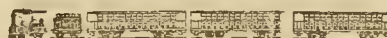
4.15 (Express Monday excepted) 8.15 A. M.; 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays 4.30 A. M.; 11.30 P. M. Leave Baltimore for North and West 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore and Washington at 4.15 A. M., and 11.00 P. M. Leave Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Old And Reliable Route.



Through to Pittsburg without Change.

The PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton, and Little Miami Railroads, still continue to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bills of Lading, or any information desired, shippers will please apply to

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No. 27 West Third Street, Cincinnati.

W. P. SHINN, General Freight Agent,
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LOUISVILLE & CINCINNATI SHORT-LINE RAILROAD.

Time only 5 hours

Fare Only \$3.50—Transfer from Hotel or Residence to Depot, in Covington, Free.

THE SHORTEST ALL-RAIL ROUTE TO Louisville, Nashville, Memphis, New Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail	7.00 A. M.	2.30 P. M.
Evening Express	5.45 P. M.	9.00 P. M.
Walton Accommodation	4.00 P. M.	9.30 A. M.

The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on the Walton Accommodation, offer great inducements to the citizens of Cincinnati and Covington who wish to purchase country residences or small farms for gardening. This train leaves late in the afternoon, and arrives early next morning, giving all day to attend to business. For further information as to routes, low fare, &c., please apply at No. 1 Burnett House, or Depot, Covington, Ky.

SAM'L GILL, Gen'l Supt. Louisville.

CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Liberty st., connects at Hampton Junction with the Delaware, Lackawanna, and Western Railroad, and at Easton with the Lehigh Valley Railroad and its connections, forming a direct line to Pittsburg and the West, without change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago, Cincinnati, St. Louis, etc., with but one change of cars. Silver Palace cars through from New York to Chicago.

FAIR ARRANGEMENT.

Commencing August 30, 1869. Leave New York as follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk, Williamsport, Wilkesbarre, Mahoney City, Tuckahoe, &c.

7:15 a. m.—For Somerville.

8:30 a. m.—For Flemington, Junction, Stroudsburg, Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.

12 m.—For Flemington, Easton, Allentown, Mauch Chunk, Wilkesbarre, Reading, Columbia, Lancaster, Ephrata, Luzh, Pottsville, Scranton, Harrisburg, &c.

3:30 p. m.—For Easton, Allentown, Mauch Chunk and Belvidere.

4:30 p. m.—For Somerville.

5:25 p. m.—For Somerville and Flemington.

6 p. m.—For Easton and intermediate stations.

7 p. m.—For Somerville.

7:20 p. m.—EMIGRANT—Stopping only at the principal stations.

9:00 p. m.—For Plainfield.

11:50 p. m.—For Plainfield, on Wednesdays and Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays) for Easton, Allentown, Harrisburg, and the West without change of cars to Cincinnati or Chicago, and but one change to St. Louis. Connects at Harrisburg for Erie and the Oil Regions. Connects at Junction for Stroudsburg, Water Gap, Scranton, &c. Connects at Phillipsburg for Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Saturdays) for Easton, Bethlehem, Allentown, Reading, Harrisburg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars to Pittsburg and Chicago. Connects at Junction with Delaware, Lackawanna and Western Railroad for all stations to Scranton. This train will be run to Easton on Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton, Allentown, Reading, Harrisburg, Pittsburg, and the West—connects at Harrisburg with train for Williamsport, Erie, &c.

Sleeping cars through from Jersey City to Pittsburg every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15, 8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m. 1:00, 2:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:35, 7:00, 7:20, 7:40, 8:00, 9:00, 9:40, 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the Central Railroad of New Jersey, foot of Liberty st., N. Y.; at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at No. 10 Greenwich st., and at the principal hotels.

R. E. RICKEY, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON, - - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, NOVEMBER 25, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
" " per month.....	5 00
" " six months.....	15 00
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" " per annum.....	240 00

Cards not exceeding four lines, \$7 00 per annum.

WRIGHTSON & CO., Prop'r's.

Progress of Railroads in the West—Kentucky and the Southern Road.

We have recently seen it stated by Gov. Morton that there were never so many miles of railroad making in Indiana as there is now. We observe that the Indianapolis and Vincennes Railroad is completed; that a great line is making through Logansport; that the new branch of the Ohio and Mississippi is nearly finished; and that only 40 miles are left to make up the Fort Wayne, Muncie and Cincinnati road. There are others making probably, of which we have no account. Nearly the same activity is manifest in Illinois, a State almost covered with railroads. A line is making from Shawneetown through Springfield to some point on the upper Mississippi, which will be very important. Even in Ohio, railroad activity has not ceased. The Hocking Valley Railroad is just finished, and plans are nearly completed to carry the line on towards Toledo, which will make a great and profitable line. Thus we see that three great States on the north of the Ohio, already having a larger proportion of railroads than any other in the country, so far from ceasing, the construction of iron roads are still in continued activity, and still press forward in their construction. But if we look across the Ohio, we shall find Kentucky, Tennessee and West Virginia far behind in such works. It is true, that in the war, these States were ravaged by armies; and it is also true, that they are not such great grain growing States, as to furnish such large freights. If we allow for these considerations full weight, it is still true, that the section south of the Ohio, and especially

Kentucky, falls far short of its proportion of railroads. Let us look at the proportion on the north and south sides of the Ohio. Taking the proportion to the surface, we have something like these results:

	Miles of R. R.	Square Miles.	Proportion.
Ohio.....	3,400	39,964	1 in 12
Indiana.....	2,500	33,809	1 in 13
Illinois.....	3,500	55,405	1 in 16

By next Summer there will be 10,000 miles of railroad in the three States of Ohio, Indiana and Illinois, making a mile of railroad to each 13 square miles of surface. South of the Ohio, the case stands thus:

	Miles of R. R.	Square Miles.	Proportion.
Kentucky... ..	700	37,680	1 in 53
Tennessee.....	1,400	45,600	1 in 32
West Virginia... ..	350	22,000	1 in 63

We observe here, that on a surface of 105,000 square miles there is only a mile of railroad to 45 square miles of surface. Now, we are aware that railroads are not made without people and products to supply them with business; and therefore, it is not merely surface, which is to be taken into view; and therefore, we will make another comparison by population:

	Population.	Proportion.
Ohio.....	2,800,000	1 mile R. R. to 800 people.
Indiana.....	1,700,000	1 " " " 700 "
Illinois.....	2,000,000	1 " " " 650 "

We have given the population very nearly as it is at the present time. We find then, that in a population of 6,700,000 there is a mile of railroad to 700 people. South of the Ohio, we have this result:

	Population.	Proportion.
Kentucky.....	1,300,000	1 mile R. R. to 1,850
Tennessee.....	1,300,000	1 " " " 930
West Virginia.....	240,000	1 " " " 700

Here we have in a population of 2,840,000 one mile of railroad to 1,160 people. Taken in any view and by any standard, the country south of the Ohio is remarkably deficient in railroads. South of it in Georgia, South Carolina, etc., there is a much greater proportion of roads; and east of it, in the Atlantic States, a much larger proportion. And even in the States west of the Mississippi there is a larger proportion to either people or surface than there is immediately south of the Ohio. What is the cause of this? We unhesitatingly say, that it is mainly the past policy of Kentucky; we say *past*, for we hope and believe no such policy will prevail hereafter. What is that policy? Kentucky has the reputation of being a patriotic and generous State; yet certain it is, that the railroad system is more backward there than it is anywhere else. Why so? What is the cause? Kentucky has never given anybody, even its own citizens, any encouragement to build railroads. When the South (Georgia and South Carolina) wanted simply a fair right of way to come to the Ohio river, it was (purposely) so loaded down by conditions in Kentucky, that the road could

not be made. For example, one condition was, that the Company should make a railroad from Lexington to Maysville. This was obviously such a burden that no company would undertake it, till subsequently, a local company undertook it, and failed utterly. Now, we understand that a company is about to recommence it, provided it can be continued through Ohio. If it can be made to connect with the roads to Pittsburgh and Cleveland, it may be useful. Passing this by, Kentucky, instead of encouragement, offered burdens to those who would make roads through. The Legislature granted charters by the dozen, but their charters were useless because there are no inducements either in the North or the South, to expend money in Kentucky where all outsiders were looked upon with jealousy and disfavor. All the States north of the Ohio pursue a different policy. They encourage laborers, and they encourage capital to come among them; and they do come, and here is the result: an enormous growth of people, capital, and general prosperity. Why should not Kentucky do the same? It is not enough to talk about the "Blue Grass region" or a flourishing city, at the falls of the Ohio. These are only incidents in what Kentucky ought to be. Where is the development of her iron, her coal, her mighty forests, her rivers with water powers? Where are the great manufacturing towns on the Cumberland, and on the Kentucky? Where is the agricultural development in the south-east and south-west of the State? Where is the development of the Blue Grass region? The population there is actually decreasing; at any rate there is no sensible increase. Kentucky is like the Army of the Potomac "all is quiet along the Potomac." All is snug, and quiet, and sleepy, where an old man can look out of his door, and feel a satisfaction in seeing no change since the days of his youth. Now, let us see what the policy of Kentucky has done by a little comparison, and we will not take it from Ohio, for we wish to excite no jealousies. Here is a comparison of the population of Kentucky and Illinois for the last forty years:

	Kentucky.	Illinois
1830.....	687,917	157,445
1840.....	779,828	476,183
1850.....	982,405	851,470
1860.....	1,155,684	1,711,951
1869.....	1,300,000	2,200,000

Perhaps nothing can be said which will show so strikingly the effects of Kentucky policy, in her own growth and policy, as this simple statement. In 1830, she had four times the population of Illinois. In 1869, she had a little over half that of Illinois. Now, we see there is a jealousy in one part of Kentucky against the "Cincinnati Southern road." Now suppose, that instead of indulging in any sad feeling, there is a general effort made to cause its success, to urge it on, what will be

the result? Everything in Kentucky will be changed. Ten millions of dollars will be expended there; and not only that, but railroads will spring up in every direction. Once build an arterial line of railroad through the heart of Kentucky, from the Ohio river to the South, and that road will be but the beginning of enterprise there. To that line will be built numerous branches in order to communicate with the great cities. Eastern Kentucky will have two or three to unite with it. Two or three will come up from the Cumberland river to it. Some line will be made easterly to it from the South-west. The coal and iron region will be developed. Factories will be built. Towns will arise; and Louisville which thinks it necessary to grow at Cincinnati will prosper and grow as much as any other place. What Louisville wants now more than any other thing is the *development of Kentucky*, and this she can not have by her present policy. A broad, liberal, enterprising spirit is what Kentucky wants now, and what she can not have, till she offers some inducements to outside labor and capital.

Southern Pacific Railroad.

MARSHALL, TEXAS, NOV. 6th., 1869.

Editors RAILROAD RECORD.—*Gentlemen*: We have just completed an extension of 14 miles to Hallsville, which place is owned by the company together with 640 acres of land.

We will locate our repair shops and principal offices there. Our engineering forces are now surveying a further extension of 50 miles to be built next spring.

We will continue to steadily extend our road, due west, in as near an air line as possible to El Paso; thence to the harbor of San Diego, on the Pacific Coast. So far, our road is a decided financial success, taxing our carrying capacity to the utmost. Our officers are: W. A. Hauser, President; Volney Hall, Vice-President and Treasurer; A. T. Smith, Secretary; Geo. R. Wilson, Chief Engineer; Jno. F. Dickson, Superintendent.

[The above road has had a "hard time a borning," but now that the event has happened, we shall be glad to hear of its rapid growth and extension towards the "setting sun." Its construction should be even more rapid than that of the Union Pacific, the rigors of winter not interfering with the work. Texas has furnished the road a most liberal charter and munificent bounty; but the State had better double the latter, which it can well afford to do, if by so doing it can secure an energy that will push forward the work at the rate two or three miles a day.—Ed. RECORD].

✍ Peter's Musical Monthly for November is full of "sweet songs," any one of the dozen it contains is worth the price of the number. John L. Peters, publishers, New York.

✍ During the past season, the Philadelphia, Wilmington and Baltimore Railroad transported from the States of Delaware and Maryland 2,115,500 baskets of peaches. Of the above 2,021,474 baskets were forwarded to New York and New England, and 94,026 to Philadelphia. If there had been no railroads, this immense crop would have rotted in the orchards. We hope to see the time come, and that soon, when the fat beeves and mutton of Texas and New Mexico, slaughtered in the valley of the Rio Grande, and cooled and kept fresh with the ice of Mackinaw, will be sold in the New York market, at a cost of not more than fifty per cent. of the present tariff. In producing this result the mechanic and laborer of New York has an equal interest with the stock raiser and herder of the plains.

HITCHCOCK'S NEW MONTHLY MAGAZINE.—

The November number of which has just been received, is a quarto, devoted to Music, Literature, and Dramatic and Art Notes. Mr. Hitchcock is the publisher of the very popular Half Dime and Dime series of Music for the Million. This number contains several pieces of new music, any one of which would alone cost more than the Magazine. "You Get, You Bet!" is a spirited piece, dedicated to the "Red Stocking" Base Ball Club.

✍ The surplus wheat crop of Minnesota is estimated this year to be 15,000,000 bushels. What would be the advantage of producing this immense surplus if it were not for the railroads that carry it to a profitable market? The farmer has a much greater interest in having railroad transportation for his produce, than the capitalist has to obtain a return for the investment in the construction. Both are benefited—the farmer most.

THE RAILROAD AND TRAVELER'S JOURNAL

—No. 1, of a handsome and spirited paper, bearing the above title, has been received. It is published at Philadelphia, by Babcock, Trowbridge & Co., and it is edited by Louis M. BABCOCK, late of the E. & P. R. R. We take pleasure in adding this new advocate of Railways to our exchange list, and bespeak for it a liberal patronage.

✍ Paper Belting for driving all kinds of machinery is manufactured by Crane Bros. of Westfield, Mass. They do not stretch, or change shape, are said to be perfectly flexible and do not generate electricity. They are not affected by heat at ordinary temperatures, nor by dust or oil, but will not run in water.

✍ The State Agricultural College of Michigan have sent us their annual Catalogue. The success of this institution demonstrates the wisdom of Congress in furnishing the means to the States to establish these "high schools" for the people.

Northern Pacific Railroad Convention.

We extract the following from the last day's proceedings of this important body:

The Committee on Resolutions not having agreed upon a report, the convention was open for discussion. Speeches were made favorable to the construction of the northern route to the Straits, by Mackinaw, from Puget Sound. Diversity of opinion was shown in regard to local roads, to be built throughout the State to the Straits, and the mode of building by counties or towns.

An interesting letter from Edwin F. Johnson, engineer of the Northern Pacific Railroad, was read. Mr. Johnson expresses confidence in the entire feasibility of the route, and that the road, when once built, will be at once self-sustaining from local traffic. The Straits of Mackinaw can not be bridged. The passage of the Straits by railroad trains can, however, be economically and expeditiously made.

In the afternoon speeches were again made, and the following resolutions adopted:

"Resolved, That a railroad through the northern peninsula of the State of Michigan to the Straits of Mackinaw, and thence, by direct connection, with the East and North, are demanded by the interests, not only of Michigan, but of the whole country: that such roads developing mining, lumbering, manufacturing, commercial and agricultural interests of the first importance, will necessarily have the effect to transmute five hundred miles of wilderness into one of the most productive and richest sections of the Union.

"Resolved, That such roads are necessary to Michigan as a bond of union between its two peninsulas, and to continue, by a practical and the shortest route toward the Atlantic, that future great continental railway of which a Northern Pacific road will form a part; and that in the judgment of this Convention it is the imperative duty of Congress to extend the land grants now held by the Jackson, Lansing and Saginaw Railroad, and the Grand Rapids and Indiana Railroad Companies, to the Straits of Mackinaw, relieving these companies of the requirement to terminate upon Grand Traverse Bay, and also to make such liberal grants of land, money, or credit, as shall secure the speedy construction of the road from the present Eastern terminus of the Northern Pacific road to the Straits of Mackinaw.

"Resolved, That the Convention deem it the true policy of the country to extend such projects as those of railroads from Mackinaw to Puget Sound, and open the line of the proposed Southern Pacific road, such as will secure their speedy construction; and that we may cite the prosperity of such States and districts as have been liberal in aiding great public works, as a perpetual argument to show the safety and wisdom of such a policy.

"Resolved, That while the railroads of Michigan and the Northwest are pioneers in the development of our own and neighboring States, and as far as their system is completed, are entitled to our highest consideration, and demand the warmest encouragement and support from the Convention and the people we represent, we now do especially and earnestly call upon Congress to extend Government aid in such efficient form as may be deemed best to the construction of the Northern Pacific Railroad to the Straits of Mackinaw, as the most important of our railroad interests."

The Secretaries of the Convention were instructed to furnish certified copies of the resolutions and printed copies of the proceedings

of the Convention to the President and Cabinet, also to the President of the Senate and Speaker of the House of Representatives, and one to the Chairman of the Pacific Railroad, Ways and Means, and finance Committees respectively.

The Convention then adjourned *sine die*.

The conclusions arrived at in the above resolutions were inevitable, and it only remains now for the people along the line to manifest their sympathy financially. Cincinnati as we have often repeated, is to reap the benefit of this proposed connection, not only in the interest of its manufacturers, from the cheap lumber it will bring to our doors, but also from our position on the line of a great North and South road. It only remains to supply a few links to connect the Northern Pacific with the Cincinnati Southern, and those links must and will be built ere long, if not with Cincinnati capital, so much the worse for our reputation for enterprise.

The Erie Railroad War.

At the Special Term of the Supreme Court, held at Delhi, Delaware county, an order was granted by the Court on Tuesday, suspending Jay Gould, James Fisk, Jr., Frederick A. Lane, Abram Gould, M. Simons, Geo. C. Hall, Henry N. Smith and Charles G. Sisson as Directors of the Erie Railway Company. A referee will be immediately appointed in this city to take evidence in regard to the conduct of the affairs of the company.

The action has been commenced by Joseph H. Ramsey, a well known citizen of Albany, on behalf of the stockholders and bondholders of the Erie Railway.

The plaintiff computes the moneys received by the defendants at no less than \$41,293,000.

The items enumerated are earnings of the road: \$19,000,000; sales of new stock, \$16,000,000; from Daniel Drew, Treasurer, \$5,543,000; new issue of bonds, \$750,000. He avers that there has not been kept among the books and records of the company any account or statement of times or amounts of the creation, issue or sale of such bonds and stocks, nor of the persons to whom such sales were made; nor of the price demanded, nor of amounts received for the same; nor of the use made of the proceeds therefrom; also, that they have had the use of all of said money, and have employed it in immense stock, gold and other speculations, and, in the opinion of the plaintiff, said moneys are not in safe custody.

Among the enterprises specified in the complaint as having been entered into with the help of the Erie Company's money, the Grand Opera House figures conspicuously, and among incidental results of rings, endeavors to acquire strength for its own purposes, has been the formation of an alliance with Tammany. Complaint sets forth in this connection that Gould, Fisk & Co. have been systematically in the habit of interfering with the political elections and movements, have used political influence and their official positions, and have applied money belonging to said company for such purposes, and, further, compelling the company's agents and employees to use their influence in connection with such purposes.

Fisk & Gould have obtained from a Judge of the Supreme Court an order staying all proceedings in the suits instituted against them

by Joseph H. Ramsey on behalf of the Erie Railway. The order is to continue in force until the decision of the motion, of which they have given notice, to have the injunction granted by Judge Murray dissolved, and the order of suspension vacated. The order has been served upon the plaintiff.

The stay of proceedings in the Erie case was granted by Judge Balcom. It is rumored a suit has been commenced in this city in the name of the Erie company against Ramsey and others, the exact nature of which can not be ascertained, but it is further said that in this suit Judge Barnard has issued an injunction, the effect of which will be to restrain Ramsey from prosecuting his suit altogether. If such is the case, another move may be expected on the opposite side almost immediately. It is scarcely possible, though, that any thing additional can take place until Judge Murray's motion to vacate is disposed of, which is not possible for two weeks. It is reported late to-day that the friends of the Susquehanna road are determined to carry the war into the enemy's camp. The offices of the Erie Railroad Company are strongly guarded, no one being admitted without the countersign. Fisk is said to have been to Boston, and Gould is reported to be very ill

Progress in Railway Management.

The New Jersey Railroad Company have recently put up in Jersey City a building two hundred feet long, designed especially as a "cleansing house" for sleeping cars. It has three tracks upon which the cars are to be run in; also a platform extending its entire length. This is fitted up with racks, scaffolds, and cross-beams, upon which the interior furniture of each sleeping-coach is placed immediately upon arrival at the depot. The arrangements for dusting and airing the blankets and cushions are extensive and complete, and the sleeping-car, before it leaves the building, is subjected to a thorough course of washing and cleansing and goes out thoroughly renovated. Hitherto the practice has been to sweep the car while it stands in the depot. The new system gives it a more thorough cleansing, rendering the car more comfortable to passengers who are under the necessity of using it for a lengthy trip. A dozen sleeping-coaches are run into the building daily to be washed and cleaned.

The prevention of accidents has been aided by a system of telegraphic signals between stations on the line, which system has not hitherto been used upon other roads. By this plan no train is permitted to leave a station until the train preceding it has left the station next advanced. Operators are placed at each station to give notice to succeeding trains. This course has been found necessary to prevent collisions, for one hundred trains daily are run over the roads from Jersey City, and although the track is double every precaution is needed to prevent accidents. The company have also placed at a short distance from each end of its drawbridges an alarm-signal that serves to stop the approaching trains, in case the regular signals have failed to do so, even at the cost of destroying the locomotive. A heavy iron plate is lowered nearly to a level with the track by the opening of a drawbridge; and, in case of fog, if other signals do not apprise the engineer of danger, this arrangement is sure to do so by knocking down the smoke-stack and the engineer's cab.—*American Artisan*.

Twenty-four Inch Gauge.

In strong contrast to the magnificent broad gauge railway advocated by Brunel is the two-foot gauge—the latest novelty in permanent way—that English engineers have just completed among the hills of Merionethshire, in Wales. This is not only something of a wonder from an engineering point of view, but very much so financially considered, for in the carriage of slate, coal, stone and other freight, it pays a profit of thirty per cent. upon its cost. It is twelve miles and a half long, and seven thousand feet higher at one terminus than at the other. It has an average gradient of one in ninety-two, but at the steepest part of the grade it is one in sixty. It is so crooked that on some parts of the line a train of ordinary length is on three curves at once. There is one place where, in turning a curve, the engine comes abreast of the last car in the train. Two of the curves are so sharp as to have a radius of only one hundred and sixteen feet. From this it will be seen that the Festiniog Railway is a most unique undertaking, and its success is strongly suggestive of a more extended adoption of the extremely narrow gauge, not only abroad but in this country, where the question of reducing the proportion of dead weights to paying loads is one of very great importance. That in this one instance, at least, the problem just referred to is satisfactorily solved, is shown by the heavy dividend derived from the original investment. That the same results can be obtained, in an equal or approximate degree, in American practice, wherein, in most cases, the engineering difficulties would be less than in the Welsh mountains, can scarcely be doubted.

The contrast between the rolling stock of the Festiniog Railway and that of the other English lines is as great as between their respective permanent ways. Instead of cars—or, as they are termed across the water, carriages—having five hundred pounds of dead weight for each passenger carried, there are employed those in which the ratio of dead weight is reduced one-half.

A truck of seventeen hundred-weight is made to carry four times its own weight, whereas, in ordinary practice, fifty per cent. of this is as much as is carried, while, in most cases, the weight of the lead is not greater than that of the truck. The engines were designed by Fairlie, and their efficiency may be estimated from the performance of one of them, named the "Little Wonder." This is worked at a boiler pressure of from one hundred and sixty to two hundred pounds per square inch, and easily draws one hundred and fifty empty slate trucks—an aggregate weight (including its own) of from one hundred to one hundred and fifty tons—up an incline of one in ninety-two, sometimes rising to one in eighty. In trials for speed the results have given equal satisfaction, thirty-five miles an hour having been attained without undue jerk or oscillation of the train—a rate, with the thirty-inch wheels employed, equal in the number of revolutions, to ninety miles an hour with the seven-foot wheels of an ordinary locomotive.

After making all due allowance for the elation attendant upon the completion of a successful enterprise, and even an undue discount upon statements made during such elation, there appears to be positive proof that the Festiniog line is the first of a new type of railway destined to come extensively into

practice, and capable of yielding better returns than are commonly received from similar sources of investment. The use of wooden rails is now being advocated in some quarters, as cheaper, under some conditions, than iron; and it is not impossible that, for local and comparatively out-of-the-way lines, their adoption, in connection with the narrow gauge now exciting attention, would enable railways to be built that, in their way, would be marvels of economy and profit, however much they might clash with preconceived opinions founded on established usage.—*Artisan*.

Baltimore & Ohio Railroad—Extension.

The Toledo *Blade*, Nov. 12, has information of a project for a direct railway line from Toledo to Pittsburg.

The Baltimore & Ohio Railway has succeeded at last in her Connellsville Road, from Cumberland to Pittsburg, but there her business connections terminate. She has now from that city no connections for the west, but the President of the Connellsville Branch is at the head of an organization for building a road from Pittsburg along down the east bank of the Ohio river, and crossing at the mouth of the Beaver to the Ohio State line. An Ohio organization exists and is vigorously canvassing for the extension of this route up the Little Beaver to New Lisbon, from New Lisbon to Bayard, thence by a branch road already built to Zoar thirty miles, thence down Salt Creek along the south side of Wayne county and crossing Kilbuck at Holmesville, thence up Paint Creek by way of Nashville in Holmes county, thence up the valley of the Clear Fork of the Mohican to Lexington, six miles south of Mansfield. From Lexington across to Crestline ten miles, and from thence to Toledo by the route now located and in the hands of the right men to build it. The advantages of this route are the singular circumstances of valleys leading directly west through the very hilly portions of Ohio from the Ohio river to Lexington, furnishing a direct line, with easy grades and light work. It also lies in the region of coal and iron ore, which embraces all the route from the Ohio river to the mouth of the Clear Fork of the Mohican, 120 miles of mineral lands.

In Ohio the parties taking up this enterprise are Mr. A. Waddell, of Columbiana, who is directly commissioned by the Connellsville Road; Mr. W. Mathers, of New Lisbon, and J. Chamberlain, of the Leetonia Furnaces, all energetic and familiar with such duties.

The aid at Pittsburg is expected to be sufficient for so much of the road as lies in Pennsylvania, about 40 miles, including the Ohio River Bridge. In Ohio the people along the line, as far as Zoar, are equal to their amount, and from Zoar to Lexington is now receiving Mr. Waddell's best attention, it being the only portion where the amount of local aid is feared to be insufficient.

—Louisville, Ky., has voted by a majority of about 500 to subscribe \$500,000 to the projected Louisville, New Albany and St. Louis Air Line Railroad. Gen. L. M. St. John, Chief Engineer, in the report of his survey, estimates the cost of grading and trestle work at \$1,731,114; track superstructure, including siding and depot yards, \$1,413,600; bridges, \$115,860; depot, water stations, etc., \$200,000; contingencies, including engineering, etc., \$300,000. Total, \$3,700,583.

Concerning Rails.

The best iron rails cost perhaps twelve to fifteen dollars per ton more than the poorest, but, if they last twice or thrice as long, no railway manager will pretend to doubt their economy. The trouble is that some railway managers, and especially the builders of new roads, never consider the question of durability. Nor is there any secret or difficulty in the manufacture of good iron rails. One process which makers are sometimes forced into by low prices is to cut up old rails, pile them together and roll them into slabs to form the head of a new rail. The remainder of the pile from which the new rail is rolled is simply old rails cut up and laid together. Not a particle of new iron, which would greatly help the welding, is added, for that cost some six or seven dollars per ton more than old rails; and not half enough work is done on the loose bundle of iron forming the rail pile to compact it. Nothing is more certain than that such rails will go to pieces in the welds after short service. The method adopted at the Reading Railroad Company's mill—and the same or a better one would be gladly adopted by private makers if companies would pay for it—is as follows:—Some seventy per cent. of old rails and thirty per cent. of new iron (puddle bar) are laid in a pile and rolled into slabs an inch thick. Seven thicknesses of these piles are again piled, reheated, and rolled into a head piece two inches thick, which forms the top of the rail pile. The remainder of the pile is made up of seven thicknesses of slabs before mentioned, the whole being heated and rolled into a rail. In this way the body of the rail is twice compacted by heat and pressure, and the head that receives the direct action of the car-wheels is three times subjected to this condensing operation.

A rail thus made, instead of being a bundle of heterogeneous laminæ stuck together by cinder, and ready to split apart under the hammering of wheels, is a dense compact, and comparatively homogeneous mass, which offers resistance not only to abnormal splintering, but to normal abrasion and wear, just in proportion to the work upon it in the rolling mill. It is the perfect homogeneity of steel that enables it to outlast the best iron, even more remarkably than the best iron outlasts the poorest; and the nearer iron rails approach in structure to steel rails, the longer they will last, and the less they will cost in the end. It is time that this pitiful talk about the impossibility of getting good rails was stopped. There is no doubt that some rail makers 'scamp' their work—a peculiarity not confined to rail-making—but the worst of them can and will make good rails if railway managers will give them a chance, and substitute suitable tests and inspections.—*Am. Railway Times*.

G. R. & I. R. R.—The old grade of the G. R. & I. R. R. between Grand Rapids and Kalamazoo, has been repaired and the road bed overhauled, preparatory to the laying of iron in the Spring. This will be gratifying intelligence to the people of the eastern portion of our county, who have waited these many anxious years for the completion of the G. R. & I. R. R. We shall now have three north and south Railroads through Allegan county, one in the Eastern, one in the Central and the other in the Western portion of the county.

About 40 men are at work in the town of Byron, Kent county, grading near the sunken lake in that township.—*Allegan Journal*.

Railroad Items.

—A Hamburg (Germany) correspondent of the *Leavenworth Commercial* gives the following glimpse at American bond manipulations in the European market:

"The Rockford & St. Louis roads have spent several thousand dollars within the last month, advertising their bonds in this city alone. Prize bonds, with coupons attached, may be seen in every Banker's and Money Exchanger's window. Editorials are paid for, and appear, at exorbitant figures, assuring the public of the great fortune in store for the lucky possessors of the bonds, and yet I do not believe that \$5,000 would have been sold. The same remarks apply to the 'Gold Obligations,' at seven per cent. of the Pacific Railroad; they too, are extensively advertised, puffed up, and not taken."

—The Little Rock *Gazette* says there is a promising prospect of the revival and speedy completion of the Cairo and Fulton Railroad. Negotiations have been made with English capitalists which secure the means for building the road beyond any contingency. The company are contracting for the first twenty miles, beginning at Jacksonport, and running north towards the Missouri border, and expect to have the entire road finished in three years.

—The track of the Fort Wayne, Jackson & Saginaw Railroad was completed to Jonesville, Mich., on Tuesday, and the officers and employees were magnificently feted on the occasion by the Jonesvilleans. The work was completed the Friday previous to Beading, twelve miles south of Jonesville, and much of the grading, bridging, etc., is done as far as Angola.

—Richmond, November 25. The stockholders of the Chesapeake & Ohio Railroad met to-day. The receipts for the fiscal year were \$661,277 and expenses \$477,581. An offer was received from parties in England to take \$80,000 of the company's stock, but no action was taken.

—Memphis, November 25. Judge Yarley, in the case of the Little Rock Railroad imbroglia, reserves his decision till Thursday. Col. Williams, Superintendent of the road, is released on bail, on a charge of contempt in refusing to deliver the road to the new Directors.

—The capital stock of the Toledo, Wabash & Western Railroad is \$7,400,000, funded debt \$27,000,000 (an undue preponderance); length of road 521 miles. Receipts for past year \$4,478,723; expenses \$3,158,763.

—A mortgage for \$5,000,000, given by the Indianapolis, Bellefontaine & Western Railway Company to the Farmers' Loan & Trust Company of New York, was recently recorded at Indianapolis.

—Tracklaying on the Brunswick & Albany (Georgia) Railroad is progressing rapidly, and it is expected to complete 60 miles by the first of January.

—A thousand men are working on the uncompleted portion of the Macon & Augusta Railroad, between Milledgeville and Macon, a distance of 30 miles.

—The Little Rock and Fort Smith Railroad is going forward with all possible despatch; a force of one thousand men are now being employed at work along the line.

—Louisville, November 25. The right of way to connect their tracks was, to night, granted to the railroads centering here, over a tract which they will undoubtedly reject.

—The distance between the west end of Lake Superior & Seattle on Puget's Sound, over the surveyed route of the Northern Pacific Railroad is 1,174 miles.

—It is said that the Erie Railway has purchased the Newark, Bloomfield & Mt. Clair Railroad.

—The Kansas Pacific have 52 miles west of Sheridan graded and the track laid on 20 miles.

—The track of the Denver Pacific is laid 36 miles from Cheyenne.

—The Union Pacific Railroad earned in the fourth week of October \$578,617.36.

—The Los Angeles & San Pedro (Cal.) Railroad has been completed.

The Coal and Iron Monopolies—Iron.

To the Editor of the Pittsburg Commercial
—Dear Sir: Having made answer to the charges of the Chicago *Tribune* against the bituminous coal interest, I wish to reply to its indictment against the iron makers of Pennsylvania. It resorts, as was to be expected, to the super-semirable statistics of Hon. D. A. Wells, Special Commissioner of Revenue, for evidence against them, and the last official report of that officer should be credited with the following misstatement of the *Tribune*:

"A ton of foreign pig iron can not be imported and sold in New York for less than \$42. currency. A ton of the same character of iron can be produced in Pennsylvania and sold at a liberal profit at \$26. * * * The exclusion of foreign iron by the enormous duty and freights, enables the iron makers of Pennsylvania to sell their iron for cash at \$41 to \$42 per ton. * * * The production of pig iron in Pennsylvania is probably 1,200,000 tons, which costs, liberal profit included, \$26 per ton, and which sold for \$41 to \$42 per ton. * * * Has not the country paid these iron men enough bounty?" &c.

The Chicago editor might as well talk of the cost of a yard of broadcloth, as of a ton of iron, for there are as many kinds, and there is as much difference in the value of one as of the other. Certain special qualities of iron, imported for special purposes will command \$12 a ton. The quotations of pig iron in the New York market are of standard brands of gray forge and foundry metal, more expensive to produce than the generality of iron used in the country, and if sold by the manufacturer at the quotations, they yield nothing like the average profit of capital invested in other pursuits. A large portion of American pig iron may not cost more than \$26 at the furnace, but the cost of transportation, of which Mr. Wells and the Chicago *Tribune* take no account, will bring it up nearly to the market price, leaving but a moderate profit.—If the Chicago *Tribune* was sufficiently practical to know that the general estimated cost of a ton of wrought iron is ten dollars more than two tons of pig iron, and that the average price of wrought iron is about \$30, he could see that he had been imposed upon, and that no such price can be obtained for pig iron as he quotes.

I am well assured that the experience of the largest consumers of pig iron in the country will show that pig iron has not netted the furnaces more than \$30 a ton, any thing over that being consumed in freights. The average cost of metal purchased by the Cambria Iron Company during the present year, as shown by its books, has been \$35, about \$5 of which was the average freight from the place of production to the company's mills. Having good reason to believe that this iron was not produced for less than \$26 a ton, and considering the outlay of capital and risks of the business, can it be said that the manufacturer had an unconscionable profit?

It is not true that the American iron manufacturers have been or are making enormous profits, as charged by Mr. Wells, and there can be no good motive in giving his misrepresentations or mistakes wider circulation.—Like Illinois farmers, or Chicago grain dealers, they are willing to take the highest market price for their commodity, and so long as they get it fairly, and do not combine to corner the market, Chicago has no reason to complain of them.

Conceding that the business of making iron is now fairly profitable, and that this result is distinctly attributable to the duty, I can not see the consumers of pig iron are likely to be benefited by a repeal of the duty. By maintaining the present situation we will be sure of a supply, and may expect to reduce the cost through greatly increased domestic production. The business of making iron is free to all, and there is great store of raw material easily accessible. Within the year large furnace tracts, containing quantities of rich ore, have been sold at less than the surface of the land is worth for agricultural purposes, and opportunities of making favorable investments are constantly offering. Certainly, the free traders, who have capital enough, and sufficient intelligence, do not believe the statements of Mr. Wells, or they would "make iron instead of making mouths at those who do."

Repeal of the duty would at once effect a considerable reduction in the price. The purpose of its advocates would not be accomplished, without a check to domestic production, with consequent embarrassment and loss to manufacturers, resulting, in many instances, as experience has shown, in a total loss of invested capital and permanent cessation of industry. The deficiency in the domestic supply would have to come from abroad, and demand for foreign iron increasing, its price would be raised, and all the benefits promised the consumers from reduction or repeal of the duty would be neutralized, as has always heretofore happened. The only person benefited in the end would be the maker of foreign iron. At present it only gets into our market by stooping, for meeting domestic competition and the duty the manufacturer abates something of his insured profit. He is directly interested in a reduction of the tariff, and it is not surprising that persons whose futures depend upon the extension of foreign trade in this country should do what they can to remove any barrier to its success. The organization of free trade leagues, and the purchase of controlling interests in leading newspapers, for the purpose of effecting a repeal of duties, should be avowed as legitimate business transactions, and not awkwardly covered by a pretense of disinterested philanthropy.

I think it is clear that if it were possible to largely increase the consumption of foreign iron, without destroying the power of the peo-

ple to purchase and pay for it, it would result in bringing up the price of iron in the foreign market, and then it must rise here.—The operation, in its various styles, would present the following phases, with which the country is only too familiar:

Loss of business by American manufacturers.

Loss of revenue to the government.

Large prices paid by consumers of iron.

Large profits realized by foreign manufacturers.

Of course this could endure but a short time, and there would be, as there always has been, a return to the policy of protection.

There is now produced in this country annually about 1,600,000 tons of pig iron, of which about one million tons are made in Pennsylvania. Against this we have in the year ending June 30, 1869, an importation of but 137,042 tons. Any tampering with the present tariff, which would reduce domestic production to the extent of 150,000 tons, and oblige us to call on England for that much additional, would run up the price more than the duty now imposed. The production of railway iron in this country will probably amount to 600,000 tons in the present year.—The importation of the year ending June 30, '69 (an increase of over sixteen per cent upon the previous year), amounting to 236,713 tons. If we should call upon England for twice this amount, what would be the price of rails in Great Britain? At present, even under our inflated currency, American rails are selling at \$75 to \$78, and only those of superior reputation bringing the latter price. In 1853, after the American mills had been broken down, and while England held our markets, English rails were sold to \$80 in specie. Having recovered from the shock, resulting from the tariff of 1846, the country was able to consume rails and took about 300,000 tons, which ran up the price as I have stated, and it staid up until reduced by domestic production. The foreign iron manufacturer is pressed down by the duty, as we get but a surplus of his stock. When we begin to demand from him the goods usually taken by his regular customers, the price rises very fast. The longer we can hold the foreigner in this way, the more we may extend and rely upon domestic production the more we may draw to us skilled workmen, and the result must be to gradually equalize the cost of production at home and abroad, and to reduce the price of iron while ensuring a steady and amply supply.

Conceding that the manufacturers of pig are getting more than their share of profit, may not the law of supply and demand be trusted to effect equalization? I think so.—Nothing can prevent it except the threatened repeal of the duty, which may keep capital out of the business.

The effect of the free trade press to excite prejudice, and array one class against another, and one locality against another, is to be deprecated. The interest of the West and the East, of the farmer and ironmaker, are the same. If the manufacture of pig iron is profitable, is not other business also profitable? And if we enter into the question of bounties, it would be well worth while to call attention to the bounties the country has paid to the agricultural interest. It has received the full gift of farm lands of immense value, government subsidies to railways have been necessary for its benefits, the agricultural bureau with its distributions of plants and seeds, its government experiments and costly publications, is no slight tax, while the bill for exploration and military protection of the fron-

tier may be debited to its account. Compared with the difficulties it had to encounter, it has received much greater aid from the government than the manufacturing interests, and has made much larger profits. Being about equally interested as a producer and purchaser of iron, I would be very glad to have the price cheapened by an increased domestic supply, and many agencies are at work to bring about this result. I would not advise, however, any body to invest money upon the calculations of the Chicago *Tribune's* editor. Many a sanguine capital has been mined by an exhibition on paper of such anticipated profits, and those who have succeeded in the business owe their success to such hard work and careful management as is rarely given to any other pursuit. Iron making is not the sort of gift enterprise in which everybody draws a prize.

T. J. MORRILL.

Coal and Iron—Virginia and West Virginia.

The Iron deposits in Virginia and West Virginia are equal to, if not more extensive than those in Pennsylvania. Along the line of the Chesapeake and Ohio Railroad are found inexhaustible deposits of superior iron ore. From Staunton, Va., to the White Sulphur Springs in West Virginia, a distance of 100 miles, there are very large quantities of valuable iron ore. Also along the line of the James River Canal, west of Lynchburg, is found superior iron ore in great abundance. In fact, the entire Alleghany range of Mountains in both Virginia and West Virginia, extending 350 miles, from Maryland to Tennessee, are filled with iron ore in quantity and quality equal to the most valuable deposits found in Pennsylvania, the largest quantities being found east of the main Alleghany range of Mountains, and west of the Blue Ridge.

West of this vast area of iron ore deposits is to be found the Appalachian coal field of West Virginia, which, in extent, is greater than the coal field of Pennsylvania. For the coal field of West Virginia is estimated to contain 15,900 square miles, while that of Pennsylvania is estimated to contain 12,656 square miles. The coal area of Great Britain is estimated to be 11,859 square miles.

The Chesapeake and Ohio Railroad and the James River and Kanawha Canal (when completed to the Ohio River) will pass through the very heart and center of the coal and iron deposits of Virginia and West Virginia. These improvements will pass through the New River Valley and the Great Kanawha Valley to the Ohio River, a distance of 200 miles, cutting at right angles the most extensive deposits of superior cannel, splint and bituminous coal known in the world. Coal, remarkable for its superiority in generating steam, in smelting iron ore, and in making gas, and unsurpassed as a fuel.

Thus, in Virginia and West Virginia, and especially along the line of the Chesapeake and Ohio Railroad, and the line of the James River and Kanawha Canal, are to be found in great abundance and of superior quality, two great elements of a nation's wealth—coal and iron.

Not long since, Mr. Gladstone, in a speech delivered in the English Parliament, said the commercial prosperity of Great Britain over all other countries was attributable chiefly to her coal deposits and their location near iron ore—that coal and iron in close proximity to each other constituted the *substratum* of England's commercial prosperity.

The same may be said of Pennsylvania. It is the development of the coal and iron of that State that constitutes the basis of its wealth and power. And what has been done in Pennsylvania may be done in Virginia and West Virginia, and even to a greater degree. For the deposits of coal and iron are more numerous and varied, and more favorably located for a thorough development by means of Virginia's central water line and railway uniting the Great West with the Atlantic seaboard.

Pennsylvania capitalists have already commenced investing in this coal and iron region. In the past few weeks Heister Clymer, W. Firmstone, and others, of Pennsylvania, have bought very large tracts of iron land in Alleghany County, Va., near both the canal and railroad.—*N. Y. Tribune*.

Rights of Colored Persons on Railroads.

The suit of Annie Williams vs. the Chicago and Northwestern Railway Company was tried recently before the Winnebago Circuit Court in this city, occupying a number of days. Elijah W. Blaisdell, Jr., and Cyrus F. Miller, Esqs., for the plaintiff, and James M. Wright and Jason Marsh, Esqs., for the defendants. It appeared in evidence that in August, 1867, the plaintiff purchased of the defendants a first-class ticket as a passenger from Rockford to Belvidere, and while entering the car set apart for ladies by the defendants, one of the employes of the defendants stopped the plaintiff and excluded her from the ladies' car. The plaintiff a number of times demanded a seat in said car where there were vacant seats; and while she was waiting at the door a number of ladies were admitted into it, while she was refused a seat therein solely on account of her color. This distinction was attempted to be justified by the defendants counsel on the ground that they had a right to make all regulations in opening their railway. The counsel for the plaintiff contended that a distinction merely on account of color was arbitrary and unjust, and that the defendants might as well make distinction founded on education, or dress, or nationality, or wealth in the regulations of their passenger cars. This being the first case of the kind since the war, involving the rights of colored persons on these public conveyances, the trial created a deep interest. The case was ably and at length argued by the counsel on both sides. The Court instructed the jury favorably to the rights of the plaintiff, and the jury after a short retirement, brought in a verdict for the plaintiff, assessing her damages at two hundred dollars. It is understood that the defendants will appeal to the Supreme Court.—*Rockford Register*.

The Law of Negligence.

In the recent case of the Pennsylvania Railroad v. Barnett, the Supreme Court of Pennsylvania held as follows:

1. And the court properly charged that in determining whether, under all the circumstances of the case, the Company was guilty of negligence, the jury should consider the relative position of the county road and the railroad; likelihood and facility of a traveler to discover approaching trains, and where that was difficult, the care to be observed by the company would be proportionably increased; that if the whistle could be heard by travelers on the township road, which was a public road much traveled, and that the railroad trains

could not be seen from a point at a safe distance from the bridge, the jury would determine whether it was not the duty of the engineer to give some notice of the approach of the train; and that this was a matter of fact, in view of all the surroundings, and not of law. If, under the evidence in this case, the court had charged as matter of law that the Company was guilty of negligence in not giving notice of the approach of the train, the instruction would have been clearly erroneous. Negligence is always a question for the jury when there is any doubt as to the facts, or as to the inference to be drawn from them.

2. For damage arising from non observance of a considerate and prudent regard for the rights and safety of others a railroad company is equally, with a natural person, responsible.

3. If, in approaching a bridge, it would have been negligence in the person injured, to have knowledge, driven upon it just as a train was about to pass under it, it was the duty of the engineer to give notice by sounding the alarm-whistle.

4. Whether it is the duty of the Company to give notice of the approach of its trains, at any point on the road, depends altogether upon circumstances. Where there is no reasonable apprehensions of danger, no such notice is required. But if danger to the persons or property of others may be reasonably apprehended, or is likely to result from running of its trains without giving such notice, then it is the duty of the company to give it, and the omission is negligence.

5. The sounding of the alarm-whistle, as an unadvised traveler is passing over, and the railway train under the bridge, owing to which his horse became restive, ran away with and injured him, was such an act of gross negligence as to be a sufficiently proximate cause of the injury.—*R. R. & Travelers' Journal*.

NORFOLK AND GREAT WESTERN RAILROAD.—It will be gratifying to the friends of the Norfolk and Great Western road to learn that its President, Colonel Flounoy, has within the last few days concluded important negotiations in New York with the Memphis, El Paso and Pacific Railroad Company, by which the former is made the eastern terminus of the latter great line—the two together forming the Southern Transcontinental Railroad. In this connection it is proper to say that the late Louisville Commercial Convention endorsed and recommended the Memphis, El Paso and Pacific Railroad as the South Pacific road. Colonel Flounoy is engaged in other negotiations with capitalists, the object of which is to put important portions of the road to contract during the coming winter. All acknowledge the importance of this work—all see how, when completed, it will develop a vast trade and attract to our seaboard an amount of business that will be lost to it without such a line.—*Richmond (Va.) Whig*.

With the means of locomotion at present in use, a tour round the world may be made in 80 days. The intervals separating the various points are these: Paris to New York, 11 days; thence to San Francisco, 7; thence to Yokohama, 21; thence to Hong Kong, 6; thence to Calcutta, 12; thence to Bombay, 3; thence to Cairo, 14; and from Cairo back to Paris, 6, making in all 80 days; about the time which would formerly have been employed in going from London to St. Petersburg.

IOWA CENTRAL RAILROAD.—Forty-five miles from Ackley to Marsalltown are now completed. Sixty more are graded, and work is being urged along the entire line. This road, as our readers are aware, is to run from the southern to the northern boundary of Iowa, near the 15th meridian, a distance of 240 miles. When finished, it will supply to St. Louis a connecting link to St. Paul, 147 miles shorter than any existing route. The line in Iowa will traverse the rich central basin between the Cedar and Des Moines rivers, prolific in coal and the finest agricultural and cereal products.

NAPHTHA AS FUEL.—On July 31st a train arrived safely at Kulschujan, 81 versts from Charkoff, whose engine was heated with raw naphtha instead of coals. The honor of the invention is ascribed to the mining engineer Partski.—*Mich. Mag*

A CARD.

A Clergyman, while residing in South America as a missionary, discovered a safe and simple remedy for the cure of Nervous Weakness, Early Decay, Diseases of the Urinary and Seminal Organs, and the whole train of disorders brought on by baseful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope, to any one who needs it, *Free of Charge*.

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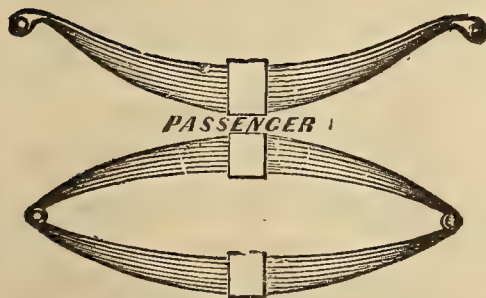
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M.; Urbana, 10.29 A. M.; Galion, 12.57 P. M.;

Mansfield, 1.40 P. M.; West Salem, 2.48 P.

M. (Dine). (Sleeping Coaches through to

New York); Akron, 4.21 P. M.; Ravenna,

5.05 P. M.; Meadville, 7.55 P. M. (Supper);

Susquehanna, 8.10 A. M. (Breakfast); Turner's,

2.07 P. M. (Dine); New York, 3.30 P.

M. Connects at Ravenna with Cleveland &

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9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.00 A. M.; Urbana,

1.26 A. M.; Galion, 4.00 A. M.; Mansfield,

4.44 A. M.; West Salem, 5.56 A. M. (Bkfst);

Akron, 7.33 A. M.; Ravenna, 8.20 A. M.;

Meadville, 11.16 A. M. (Dine); Hornells-

ville, 6.19 P. M. (Supper); New York, 7.00

A. M. Connects at Mansfield with Pittsburg,

Ft. Wayne & Chicago Railway for Pittsburg,

Harrisburg, Philadelphia, &c.; at Meadville

with Franklin Branch for Oil City; at

Elmira with Northern Central Railway for

Harrisburg and the South, and at N. Y. with

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Richmond & Chicago	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada	6 00 P. M.	10 30 A. M.
Hamilton Accommodation		6 45 A. M.
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Leave CINCINNATI	7 10 a.m.	10 10 p.m.	4 00 p.m.
Arrive ELYMOORE	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENT	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL	9 55 "	10 50 "	6 40 "
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Trains Arr. at C. O'H.	6 10 a.m.	11 30 p.m.	12 00 m.

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ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

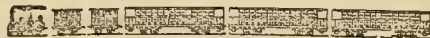
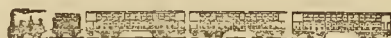
	Leave.	Arrive.
Indianapolis and Lafayette Mail	6 30 am	12 20 am
St. Louis and Springfield Express	3 35 pm	8 20 am
St. Louis and Springfield Express	10 35 pm	3 30 pm
Lawrenceburg Accommodation	10 00 am	2 35 pm
Lawrenceburg Accommodation	4 45 pm	8 05 am

*The 10:35 p.m. train will leave Sundays, but not on Saturdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail	7 00 am	10 00 am
Chicago Express	6 10 pm	9 10 pm
Harrison Accommodation	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl Streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

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On Sundays 4.30 A. M.; 11.30 P. M.
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SUNDAY TRAINS.—Leave Philadelphia for Baltimore and Washington at 4.15 A. M., and 11.00 P. M. Leave at time for Philadelphia at 8.25 P. M.
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Evening Express	5 45 P. M.	9 10 P. M.
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CENTRAL R. R. OF NEW-JERSEY.

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Sixty miles and three hours saved by this line to Chicago, Cincinnati, St. Louis, etc., with but one change of cars. Silver Palace cars through from New York to Chicago.

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Commencing August 30, 1869. Leave New York as follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk, Williamsport, Wilkesbarre, Mahanoy City, Tuckhannock, &c.
7:15 a. m.—For Somerville.
8:30 a. m.—For Flemington, Junction, Stroudsburg, Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.
12 m.—For Flemington, Easton, Allentown, Mauch Chunk, Wilkesbarre, Reading, Columbia, Lancaster, Ephrata, Lititz, Pottsville, Scranton, Harrisburg, &c.
3:30 p. m.—For Easton, Allentown, Mauch Chunk and Belvidere.
4:30 p. m.—For Somerville.
5:25 p. m.—For Somerville and Flemington.
6 p. m.—For Easton and intermediate stations.
7 p. m.—For Somerville.
7:26 p. m.—EMIGRANT—Stopping only at the principal stations.
9:00 p. m.—For Plainfield.
11:50 p. m.—For Plainfield, on Wednesdays and Saturdays only.**FOR THE WEST.**

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,) for Easton, Bethlehem, Allentown, Reading, Harrisburg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars to St. Louis. Connects at Harrisburg for Erie and the Oil Regions. Connects at Junction for Stroudsburg, Water Gap, Scranton, &c. Connects at Phillipsburg for Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Saturdays,) for Easton, Bethlehem, Allentown, Reading, Harrisburg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars to Pittsburg and Chicago. Connects at Junction with Delaware, Lackawanna and Western Railroad for all stations to Scranton. This train will be run to Easton on Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton, Allentown, Reading, Harrisburg, Pittsburg, and the West—connects at Harrisburg with train for Williamsport, Erie, &c.

Sleeping cars through from Jersey City to Pittsburg every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15, 8:15, 8:30, 9, 9:20, 10:30, 11:10 a. m.—12 m., 1:10, 2:10, 3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25, 7:10, 7:22, 7:40, 8:10, 9:00, 9:40, 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the Central Railroad of New Jersey, foot of Liberty st., N. Y.; at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at No. 10 Greenwich st., and at the principal hotels.

R. R. RICKEY, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors
T. WRIGHTSON,
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, DECEMBER 2, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

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WRIGHTSON & CO., Prop'r's.

The Chesapeake & Ohio Railroad.

Our readers will recollect that on two or three occasions we have mentioned and commended the *Chesapeake & Ohio Railroad*. This is the name of a combination of roads, of which the object is to make a complete and efficient trunk line of road from Richmond and Norfolk, in Virginia, to the Ohio River at the mouth of Big Sandy. This combination consists of the road from Norfolk to Petersburg, the Virginia Central road, and the Covington & Ohio road, the last being almost untouched. The separate charters were combined by an Act of the Virginia Legislature, in a charter for the entire line from tide water to the Ohio, called the *CHESAPEAKE & OHIO RAILROAD*. By the same Act the Legislature gave, we believe, the stock of the State in the road, and all legal facilities and privileges for raising money. Under this charter, we understand that Messrs. FISK & HATCH, bankers of New York, with other capitalists, have taken hold of the work, and there is now a good prospect of completing it. Perhaps no road planned for Cincinnati will be more useful, *provided* Cincinnati is willing to do something for herself. We have already said that if a great trunk line were made through Virginia to the mouth of Big Sandy, there must be a road from the Big Sandy to Cincinnati. The time for making that road is near at hand, and on that we may hereafter say something. In the meanwhile, let us take a look at the *Chesapeake & Ohio* in its relations to Cincinnati.

1. We observe the *Air Line*, distance from Cincinnati to Norfolk is but 450 miles nearer than to any point on the ocean side—and nearer than the ocean can be reached, either by the Baltimore or Richmond route.

2. The harbor of Norfolk and shelter for shipping on the ocean coast.

3. Supposing the Southern road to be made—still there will be one entire *quarter of a circle*, in which Cincinnati will have no railroad, viz: from the Marietta road to the Southern road. In this quarter of a circle the Chesapeake & Ohio Railroad will come in and reach the South-eastern Atlantic at points which can not be reached, as nearly, or as well as through this road. Hence it is that this subject presents itself with great force to Cincinnati, as well as to the whole interior country.

Let us see now what has been done, and remains to be done. We have already said that Fisk & Hatch, of New York, with other bankers, have taken up the matter, and we confidently believe, will carry it through to completion.

We have received in a letter from New York the following information:

"The Chesapeake & Ohio line is now halted at the White Sulphur Springs, a little west of the boundary of Virginia, having successfully bored through the several ridges of the Alleghany chain. From that point to the Ohio river is a gradually descending grade of less than 30 feet to the mile, and it is believed can be built for \$50,000 per mile. By the time it reaches the mouth of the Big Sandy, Cincinnati should be there with a road of her own, so as to form another direct line to Washington City and the ocean."

It will be seen that this grand trunk line is coming near to completion, and it is said that the \$12,000,000 necessary have already been contracted for. It is about 120 miles, we believe, from the White Sulphur Springs to the Big Sandy. The distances, as seen by the old Virginia Central, will be rather circuitous, as it regards Norfolk, but may be much shortened by a cut off. The distances from Richmond to Norfolk by the Central will be as follows, viz:

	Miles.
Richmond to Covington.....	205
Covington to White Sulphur.....	22
White Sulphur to Big Sandy.....	120
Richmond to Big Sandy.....	347
Norfolk to Petersburg.....	81
Petersburg to Richmond.....	22
Richmond to Big Sandy.....	347
Norfolk to Big Sandy.....	450

But this is, as to Norfolk, a very circuitous route, and if this route for Norfolk is to make a *cut off* from Lynchburg to Covington, then the Norfolk route will be:

	Miles.
Norfolk to Petersburg.....	81
Petersburg to Lynchburg.....	123
Lynchburg to Covington.....	50
Covington to Big Sandy.....	142

Norfolk to Big Sandy..... 396

We may call it, therefore, 400 miles from Norfolk to Big Sandy. To reach Cincinnati

there must be a road made, bridging the Ohio directly to Cincinnati. It is possible the bridge may be at the mouth of the Guyandotte or Big Sandy, but it will make little difference in the distance or cost. The road will go direct to Portsmouth, and thence through Adams, Brown and Clermont counties to Cincinnati. The whole distance would be about 120 miles, and would be through counties that have no railroads. No doubt those counties would contribute enough to make a large part of the road, probably enough to grade it. The whole distance from Cincinnati to Norfolk would be nearly thus, viz:

	Miles.
Norfolk to Lynchburg.....	204
Lynchburg to Covington.....	50
Covington to Big Sandy.....	142
Big Sandy to Cincinnati.....	120

Total..... 514

Now let us tell the reader that *no road can be made from the Ohio river to a Southern Atlantic port as short as that*. This is a material and all important fact in the consideration of roads leading from Cincinnati to the South. It has no rivalry with the "Southern road" as such; because the Southern road will be nearer to all the South, which is west of the middle of North Carolina. But from Baltimore to Raleigh all Virginia and a part of North Carolina will be reached nearer and better by the Chesapeake & Ohio road. It will be the great South-eastern route from Cincinnati. Whether Norfolk will find capital or enterprise to establish a Southern steamship line to Europe, we do not know. But beyond doubt *that* is what ought to be done, the moment it is ascertained that the great line from the Ohio will be made. If the Chesapeake and Ohio road is finished, and the steamship line from Norfolk established, we hazard nothing in saying that the line from Cincinnati through Norfolk *will carry the products of the Ohio Valley over the Atlantic cheaper than can be done in any other way*. Competition by New York, Boston or Philadelphia for that trade would be in vain. All other things, however, require capital and time. The first element in the general scheme is undoubtedly *to make the Chesapeake & Ohio to the Ohio*. We doubt not, but when the main line is made, Cincinnati and the counties will make the road on the Ohio side, and Norfolk will find means to secure a steamship line. We trust that they may all be made at an early day, for we are anxious to see Cincinnati possess all the artificial avenues, which are necessary to take advantage of the great natural advantages which she possesses. Central to the great Ohio Valley, and having abundant lines to all the North and East, it yet remains for her to complete her communication with the South, South east and South-west. Let her accomplish them and she will be indeed a Queen City—a Metropolis of the Central West.

Broad Gauge Route.

We were witness, a few days ago, to the proverbial urbanity of the officers of this popular route of travel. A gentleman came into the car of the Erie & Atlantic & Great Western R. R. with a little six year old girl, with a label pinned on her dress, with name and destination. She was put into the care of the gentlemanly conductor, and in a few minutes we heard "good bye, darling," "good-bye Uncle," and in another minute the little one was being whirled away with "railroad speed," from her protector.

Her mother lived in Indiana, her father dead, killed on a railroad the night she was born, and the little waif was now to be wafted to Sutton's, near Meadville, to visit her grandmother—without an escort. After a good night's sleep she woke up bright and happy next morning and was a general favorite with the Passengers. In due time the train made a special stop at Sutton's, and delivered the prattling little one to those who were anxiously waiting her coming.

This put us in mind of the old story of the Mississippi steamboat captain, who on being hailed by a flag from the shore rounded too, and inquired what was wanted; when the old lady told him that her daughter Sally in New Orleans had sent up for a dozen of eggs; and, would he have the goodness to take them to her. "Certainly, Madame," was the prompt, business-like response. "Well," said the old lady, "I've got but just eleven here, and hate to send odd count; if it aint asking too much of you, Captain, to wait a few minutes, the old speckled hen is on the nest, and I can make up the even dozen." The Captain waited and Sallie got the "even dozen."

By the way, there is no route in the country in better order than the Broad Gauge, and the comfort and luxury of their cars is universally admitted.

Cincinnati, Wilmington and Zanesville Railroad.

Agreeably to the orders of the United States Court and the previous advertisements, the Cincinnati, Wilmington & Zanesville Railroad was yesterday sold to Thos. L. Jewett, of Steubenville, for the sum of \$1,004,000, subject to the confirmation of the United States District Court. It is understood that the bid of Mr. Jewett is made on account of the Pennsylvania Railroad, who are the holders of \$500,000 of the bonds, on which the foreclosure is made. The whole amount of bonds issued is \$1,300,000. The stock of the road is \$1,700,000. The Cincinnati, Wilmington & Zanesville road is 136 miles long, in good order, and with ample rolling stock for the business of the road, which, up to this time, has been but local; whether the change of ownership will make it a part of a great through line or not, we can not now say. It may have been bought by the purchasers to prevent

its becoming a "short line," in the hands of a competitor. Or it may be that the Pennsylvania Railroad will extend the Zanesville road and run an independent line into the city, by the way of the old Short Line Tunnel route. This, however, would be running a competing line to the Pan Handle, on the same general route of travel. But then it would be no stranger a circumstance than the same company owning the Columbus, Indiana Central & Chicago Air Line, and the Pittsburg, Fort Wayne & Chicago.

Chesapeake & Ohio Railroad.

The Stockholders of this Company met at Richmond, Va., last Saturday, to consider propositions for furnishing the necessary means for finishing their road to the Ohio river. The offer of C. P. Huntington and others, of New York, was adopted by a vote of 56,000 yeas to 51,000 nays. The eastern terminus is to be Richmond, and the western the mouth of the Big Sandy river. The length of the line complete to the White Sulphur Springs is 225 miles, incomplete 200 miles. The cost of construction is estimated at gold prices \$12,000,000; debt, \$300,000; estimated cost of completion, \$10,000,000. The amount to be furnished by the contracting parties, \$15,000,000. Connections—Western, via Lexington, Ky., Louisville, St. Louis and Memphis; via river route to Cincinnati, St. Louis, Chicago and Indianapolis; via Chillicothe and Columbus branch lines embraced in the charter. Distance from Covington to Lynchburg, 100 miles; from Coalsmouth to Point Pleasant, 45 miles.

The following are the Directors for the ensuing year: C. P. Huntington, A. A. Low, Wm. H. Aspinwall, Pliny Fisk, David Stewart, Jonas G. Clark, M. B. Hatch, H. Chester Parsons, John Echols, Wm. C. Wickham, Jos. R. Anderson.

ARTIFICIAL STONE.—The article on another page from *London Engineering*, relative to M. F. COIGNET'S method of constructing bridges, aqueducts, sewers, etc., is full of interest, showing an advance on the part of French engineers over those of this country. The production of moulded stone will develop a new era in architecture, as it will admit of such an endless variety of decorations at trifling cost. Immense blocks of this artificial conglomerate stone have been used by the French engineers in the construction of docks and piers in France, as well as in the Suez canal, where it is exposed to the most severe tests.

The *Western Railroad Gazette* gives a fac-simile of a Chinese placard, advertising the Western Pacific Railroad, and in view of future advertisements of a similar character, calls frantically for a Chinese proof-reader, and refuses to be responsible "for what such straggling blotches of ink may say."

The Southern Railway and the Tennessee Legislature.

Telegrams from Nashville state that Mr. Fleming, of Knoxville, who is Chairman of the Judiciary Committee of the Tennessee House of Representatives, is opposing the Southern Railroad bill. We are at a loss to understand this, as we learn that our Trustees, when in Nashville, consulted with the Knoxville men, read the bill to them, and left with the impression that it met their approval. It is well known that the *ENQUIRER* advocated Knoxville as the southern terminus of the road; but, after full consideration, it was decided to make Chattanooga the point, as that would lead to connection with Knoxville as well as with the Southern system of railways converging at the former place. In Cincinnati there is none but the warmest and most friendly feeling for Knoxville—a feeling that has existed for thirty years, and which will undoubtedly lead to a connection by railway as soon as the great trunk line can be completed. We can not, therefore, but think that, however sincere Mr. Fleming may be, he is misrepresenting the true interests of his constituents and alienating their friends here—There is no division among us, now that Chattanooga has been fixed upon, in regard to the necessity and importance of pushing the work to completion. As it is to be done wholly with public capital, private resources will be at liberty to assist other connecting lines, prominent among which will be the one to Knoxville, for which nearly a million of dollars was at one time subscribed here. The defeat of the present bill is the destruction of all efforts of this kind. We trust that the good sense of the people of Knoxville will correct the mistake of their Representative.

It is somewhat surprising to us that the interests supposed to be at the bottom of this action of Mr. Fleming—those of Louisville and the Louisville and Nashville Railroad—should show so much more power in the Tennessee Assembly than they will have in Kentucky, if we may judge by the tone of the press and private correspondence from the latter State.

The "pea nut" policy, as it is justly termed, we are assured, does not meet with the approval of the liberal portion of the people outside of Louisville, and is seen by its enlightened citizens to be ultimately destructive of the object it is desired to accomplish. There is room enough and to spare for both cities, and neither can be injured by the construction of railways and other highways for commercial and social intercourse.

The above, from the Cincinnati *Enquirer* of the 30th ult., is a very calm and correct review of the proposition of Cincinnati to develop the territory of the State of Tennessee. That State has heretofore deemed it a matter of sufficient importance to secure the construction of railroads across her territory for the purpose of increasing her population and resources, to pledge the credit of the State to the verge of bankruptcy, but when outside capital is proposed to be extended for the same purpose, it is sought to defeat the measure on the most puerile and childish pleas. We have read the report of Mr. Fleming with great care, and have come to the conclusion that there is but one reason only for his opposition, viz: That the Southern terminus was fixed at Chattanooga instead of

Knoxville. This opposition is an error on the part of our Knoxville friends, for they will have all the advantages that would have accrued to them if Knoxville had been named instead of Chattanooga.

COLUMBUS, WASHINGTON & MAYSVILLE R. R.,—The Columbus, Washington & Maysville Railroad Company, having filed articles of incorporation at Columbus, with a capital of \$3,000,000—the incorporators and others interested in the enterprise met at the Burnet House to organize and consider matters connected with its welfare. The meeting decided to open subscription books on the 13th of January next.

The following are some of the principal incorporators: Hon. William Dennison, John Miller, John Bartlett, W. W. Brooks, Isaac Eberle J. O. B. Renick, of Columbus, Ohio; John S. Young, Isaac Dalby and W. Chenoweth, of Pickaway County, Ohio; George Krous, B. F. Thomas and William Rowland, of Madison County, Ohio; Daniel McLean, James Parcell, B. F. Ely, S. N. Yeoman and others, of Fayette County; W. O. Collins, Hon. John A. Smith, M. C. C. S. Bell and W. R. Smith, of Highland County; N. G. Devou, C. Baird, John Costlett and C. A. Linn, of Brown County, Ohio.

The Indianapolis, Lafayette & Cincinnati Railroad held their annual meeting last Monday at Morris, Ind. The following persons were elected Directors: Gen. I. A. Morris, Indianapolis, Ind.; A. Forsyth, Greensburg, Ind.; L. B. Lewis, Lawrenceburg, Ind.; H. C. Lord and W. W. Smith, of Cincinnati; William A. Booth, Indianapolis; S. Kennedy and George Bliss, of New York, and Joseph S. Fay, of Boston.

Northern Pacific Railroad.

This line has no subsidy in money from the national government, but has a valuable land grant of nearly fifty millions of acres, stretching in a belt thirty miles wide from Lake Superior to Puget Sound, which is considered ample security for all the bonds offered.

It may be proper to state that among the directors of the company are John Edgar Thomson, President of the Pennsylvania Railroad, and Geo. W. Cass, President of the Pittsburgh, Fort Wayne and Chicago Railroad, from which it will be seen that the line is under favorable auspices for Philadelphia. The route begins at a place called Duluth, at the western end of Lake Superior, and runs from thence to Seattle, on Puget Sound, a distance of 1774 miles, making via Chicago, the shortest of all possible routes between the Pacific Ocean and Philadelphia.

From the Pacific, at San Francisco, to the lake, at Chicago via rail it is 2423 miles; while from the Pacific, at Seattle, to Chicago, via rail and lake, it is 2,140 miles, and to the seaboard the difference is still greater.—It is to be presumed that the line would be connected with Chicago by rail, but it is also specially designed as a Lake trade route, and will be worked in connection with the

Philadelphia and Erie as a through line by lake from Erie to Duluth.

Ground will be broken for the road next spring, and operations will be pushed forward with all possible speed, the parties concerned being the ablest and most experienced railroad men in the country. Under the inspiration of this enterprise Duluth has suddenly become a point of remarkable interest, to which people are rushing in the style they used to start for a new gold placer, and by this time next year we shall be receiving marvellous stories of its sudden growth and wonderful progress. It is, of course, destined to become a great lake port, like Chicago, for most probably immense quantities of materials and vast numbers of laborers will be shipped from Erie to Duluth during the next five years to engage in this work, so that the basis of reliable growth is there for speculation and enterprise to build upon. All who want to strike a streak of luck are setting their faces for Duluth, and many are there already putting up houses and making preparations for the spring rush.

There is no guesswork about all this. It is a matter of dead certainty, for it is in the hands of men who know how to do it. The plan differs materially from that of the Union line in its operation. Having no government subsidy, there will be no government supervision or directors to satisfy, the company having only to suit their stockholders. There will, also, be an extensive bureau of emigration organized, with agents in all the countries of Northern Europe to encourage and facilitate emigration, the inducement being the employment offered by the company, and the prospect of becoming ultimately farmers without trouble. This supplies, it will be seen, the basis of population and business, for, as the emigration will be continual, the laborers will only be employed on particular sections, where they are expected to settle, so that fresh laborers will constantly go forward.

By this remarkable and ingenious plan it is believed that the whole line can be settled within the time specified, five years. It will thus be seen that Duluth is really sure of a future at once beyond the dreams even of Western progress.

Unless we are very greatly mistaken, it will bound forward suddenly in a style that will make people rub their eyes. Thus the long looked for, much talked of, great city at the head of Lake Superior is found at last. Our own lake port, Erie, is all agog with the news and expects to do something in earnest when the icy fetters of next spring shall have been removed and the lake navigation opened.

We have seen a line built, as by magic, across the continent, through the wilderness; but the desert and the savage are there yet.—We are now to see a new wonder—a line built, and carrying its population with it as it goes across the continent. There are no deserts of any kind along this route. It is well timbered and watered along the entire line. From Lake Superior to the mountains of Montana is seven hundred miles of the best timbered or farming land desirable, the very home of the lumberman and the wheat farmer.—Through Montana it will have excellent reliance in the gold mining of that country.

It passes the Rocky Mountains on an elevated plain, the same as the Union Pacific, and thence traverses the fertile valley of the Columbia River and through the Cascade range to Seattle. The highest point in the line is only 4000 feet, while the highest on the existing railroad is 8262 feet.

Not more than 250 miles of the new route

will have an elevation above 3000 feet, while 1600 miles of the present road have an altitude of more than 4000 feet, and over 500 miles have an altitude of 7500 feet. Under such circumstances there will be less trouble with snow than on the other line.

The first bold strike will be from Duluth to Montana, but under the plan proposed by the company of populating the route as the road is built, there will be no hot haste, although we may reach Montana within two years from the time of beginning. The company will most probably set their emigrants to do something more than merely build the road, they being anxious to have all the work done along the route by their own forces, so that shops will be built by them, and stations, and bridges, and turnouts, and in fact all that may be required for a first-class railroad, and all along, therefore, settlements will spring up. There will be no difficulty in obtaining all the emigrants in Europe that may be needed, with such offers as employment at good pay and a farm besides. The scheme seems to us, in all its aspects to be a thoroughly complete one and full of the greatest promise for the country, and especially for our railroad. Its most pleasing as well as remarkable feature is in its not asking any government subsidy, and being built wholly on the reliance of the land grant already given, and the confidence of the stockholders in their investment.—*North American*.

STATE AID—ALABAMA.—The following extract from the message of the Governor of Alabama shows the operation of the law of that State granting aid to railroads:

"By an act of the General Assembly, approved February 19, 1867, it was made the duty of the Governor, on the part of the State, to endorse the first mortgage bonds of railroad companies, when certain conditions were complied with." Before such endorsements could be obtained, twenty miles of road had to be built and equipped. Then, the Governor was to endorse for \$12,000 per mile for the road proper, and an additional amount for bridges, viz: sixty dollars per lineal foot for bridges made of wood, and one hundred per foot for such as were constructed of iron. This rate of endorsement was to continue for every subsequent section of twenty miles until the road was completed.

"By an act approved September 22, 1867, this law was so amended as to increase the rate of indorsement to \$16,000 per mile. It also provided that indorsements should be made for each section of five miles completed after the first twenty, and so much of the former law as related to bridges was appealed. Under the law, as thus amended, endorsements up to the present time, have been made as follows:

For the Alabama & Chattanooga Railroad.....	\$1,800,000
For the Montgomery & Eufaula Railroad.....	480,000
For the Selma, Marion & Memphis Railroad.....	320,000
	\$2,600,000

"These roads are in the hands of gentlemen of capacity, energy and responsibility. There is every reason to believe that they will be completed at an early day, that the interest on the bonds will be promptly paid as it falls due, and that everything else will be done to prevent loss to the State on account of the indorsement."

Journal of Railroad Law.

COMMON CARRIERS MUST ACCOUNT FOR GOODS WHEN DELIVERY TO THEM IS FIRST PROVED—LIMITATION OF RESPONSIBILITY.

The facts of the late case of *Levering vs. Union Transportation and Insurance Co.* (42 Mo. p. 88) are fully and clearly stated in the following opinion by

WAGNER, J.—This suit was brought by plaintiffs to recover the value of twenty-six bales of cotton, which the defendant had received in transport from East St. Louis to New York. The cotton was destroyed by fire in the course of its transit, in one of defendant's railway cars. At the time the cotton was delivered to defendant, it gave a receipt for the same, in the nature of a bill of lading, which had stamped across its face the words, "At owner's risk of fire," and also a like reservation in regard to loss by fire inserted in one of the conditions embodied in the instrument.

The plaintiffs claim damages to the amount of the value of the cotton, and allege that the loss was occasioned by the negligence and carelessness of the defendant in failing to furnish suitable cars for its transportation. The jury, acting under instructions of the court, found a verdict for the defendant on which judgment was rendered. There is nothing in the evidence requiring comment; and if the law was correctly and properly declared there is nothing to justify an interference. The plaintiffs were not bound to show negligence on the part of the carrier, in the first instance. All that is necessary to charge a carrier is to prove the delivery of the thing to him to be carried, and the burden of accounting for it is thrown upon him; and if he wishes to exonerate himself from liability, he must either show the safe delivery of the goods or prove that the loss occurred by one of the causes excepted in his undertaking. (*Berry vs. Cooper* 28 Geo. 543.) It is universally admitted that the carrier is always liable for injuries resulting from his own negligence, which will include defects in the means of transportation provided by him; and his liabilities will extend to agencies which the violence of nature causes in consequence of his negligence or defective means. In general he has been held to be an insurer of the safety of the goods intrusted to his care, and can only be exempted from perils occasioned by the act of God and the public enemy. For a long time it was denied by most respectable and eminent authorities that a carrier could release himself from the stringent responsibility imposed upon him by the common law or destroy the character of insurer which he held toward the person employing him either by notice or contract. But the opinion now seems to prevail that he may stipulate for a limitation of his responsibility. (*Western Transportation Co. vs. Newhall* 29 Ill. 466.) But although he may thus restrict his liability, so far as he is an insurer against losses by mistake or accident, he can not exempt himself from losses caused by a neglect of that degree of negligence which the law casts upon him in his character of bailee.

As the exception is an innovation on the principles of law and introduced exclusively for the benefit of the carrier, the construction must be made most strongly against him.

In *Atwood vs. Reliance Transportation Co.*, 9 Watts, 88 in relation to the restriction in a contract by a carrier, Mr. Chief Justice Gibson said, "Though it is, perhaps, too late to say that a carrier may not accept his charge on special terms, it is not too late to say that

the policy which dictated the rule of the common law requires that exceptions to it be strictly interpreted and that it is his duty to bring his case strictly within them;" and the authorities are all to the same effect. The peculiar duty and high responsibility which has been imposed upon the common carrier arises from the public character of his employment, the extensive control he exercises over the property of others, and the facilities which he usually has for securing impunity for an abuse of his trust. (2 Kent Com. 597.) It is the imperative duty of a common carrier to receive whatsoever goods are offered to him for transportation in the usual course of his employment, and he takes them with all the responsibilities attached by law to his calling or employment. He can not vary his liability by inserting conditions in his acceptance of goods; but to have this effect of exonerating him, there must be a special contract assented to by the shipper.

The argument in favor of the right of the carrier to vary his liability, by introducing conditions into his acceptance, is founded on a misconception, in considering that his liability is voluntary and arises *ex contractu*. The law attaches the responsibility to his employment or calling, and if he assumes the calling he has no power over the duties which the law annexes to that calling. His assuming the character of a common carrier depends entirely on his own will and assent; but if he undertakes that occupation, the liabilities which come upon him in respect to goods brought home to him to be carried, are imposed by law and not created by his assent or agreement. The law of common carriers is different from the law applicable to other people. They are recognized by the law as peculiar persons, in respect to whom, in their employment, nonfeasance is a misdemeanor; a failure to carry and deliver safely is a *tort*. (*Merritt vs. Earle* 31 Barb. 38.) Public policy and fair dealing on which the extraordinary liability of a common carrier is founded, can not be undermined and frustrated by the design and circumvention of artfully prepared printed receipts contrived by scheming corporations and soulless companies, thrust upon the public without an opportunity of fair assent, in the press and hurry of railroad travel. But in the case presented for consideration we suppose there was a special agreement between the parties; it was argued on that hypothesis by the counsel on both sides, and seems to stand admitted by the pleadings. It devolved on the defendant to show, notwithstanding the exception exempting it from loss by fire, that the accident did not occur through any fault, want of care, or negligence on its part, or the part of its agents or employees.

The court refused all the instructions asked for by the defendant, and instructed the jury at the request of the plaintiffs that "if the cotton might have been saved by due and proper care by defendant or its employees, then the defendant is liable for the loss."

"The burden of proof is on the defendant to show that the cotton was not lost by reason of any want of care, skill, and diligence on the part of defendant or its employees."

"The defendant is liable for any loss occasioned by the negligence of its agents. If the cotton was burned by reason of the insufficiency of the car in which it was transported, in not being close and tight, then the defendant is liable for the loss."

Other instructions were asked by the plaintiffs, which were refused, and in this refusal we see no error, as the above most clearly lay

down the law and explain the defendant's liability throwing the whole onus upon it.

It has often been held that this court will not reverse a judgment when the court below refused to give instructions perfectly unexceptionable, provided the law was fully and clearly given by the court in others. After the giving of the plaintiff's instructions, the court of its own motion gave the following: "If the cotton in question was lost by fire, while in defendant's possession, on a railroad train, then the defendant is not liable, if the persons in charge of the train took all reasonable care and observed all reasonable precautions in the management and conduct of the train, and if the car in which the cotton was burned was reasonably tight and suitable for the transportation of such freight." This instruction constitutes the chief error complained of by plaintiffs. We can not perceive that there is any well-founded objection to it. Taken in connection with the other instructions, in effect it tells the jury that it was incumbent on the defendant, before it could screen or shield itself from liability, to show that its agents took that precaution and used that diligence which were suitable and appropriate to the business it was pursuing and the responsibility it had incurred, and also that the vehicle it used for the purpose of transportation was good and sufficient. The ordinary bailee for hire or private carrier is liable only for neglect of ordinary care; but the common carrier is held to a different and higher degree of diligence, and the word "reasonable" used in the instruction is intended to convey the idea that the carrier was bound to use that care and foresight which was appropriate to the occasion and necessary to be used in like exigencies and employments as contra distinguished from that ordinary care which devolves upon an ordinary bailee. A reasonable act is such act as the law requires. (*Warne vs. Bickford* 9 Price, 43.) In *Riley vs. Home* 5 Bing. 220. Chief Justice Best, in discussing this question says: "When goods are delivered to a carrier, they are usually no longer under the eye of the owner; he seldom follows or sends any servant with them to the place of their destination. If they should be lost or injured by the grossest negligence of the carrier or his servants, or stolen by them, or by others in collision with them, the owner would be unable to prove either of these causes of loss; his witnesses must be the carrier's servants, and they knowing that they could not be contradicted would excuse their masters and themselves. To give due security to property, the law has added to that responsibility of a carrier which immediately arises out of his contract to carry for a reward—namely, that of taking all reasonable care of it—the responsibility of an insurer. From his liability as an insurer the carrier is only to be relieved by two things—both so well known to all the country when they happen, that no person would be so rash as to attempt to prove that they had happened when they had not, namely the act of God, and the King's enemies." The taking of reasonable care, and the furnishing of cars reasonably safe and suitable for the business—these seem to be the very things required by law; and unless the carrier shows satisfactorily that he has come up to these requirements, he will be responsible for loss, without regard to his special contract for exemption. The law, it is believed, very properly declared, and we can not undertake to weigh the evidence.

Judgment affirmed. The other judges concurred.

A European Railway to India.

ALL EUROPE AT ONE END OF THE LINE, AND ALL ASIA AT THE OTHER.

Some fifteen years ago an Anglo Saxon prophecy was published for the edification of the world. The prophet was an eminent English engineer, and the subject of his prediction was the route between England and the East. The future was presented to us pictorially, or at least, in a series of half a dozen maps, dated successively 1830, 1840, 1850, 1855, 1860, 1865, and comprising the territories between the British Isles and Hindostan. The first two of these maps illustrated the past, the next the present, the last three the future. If the reader will open a chart of the world on Mercator's projection he will see that a line may be drawn in a straight direction from Ostend to Bombay across one tract of land after another. He will see, also, on a little further examination, that there are three water ways between these two points—one representing the long circuit of the African Continent; a second passing by the Mediterranean and the Red Sea, and a third, involving rather more land traveling, by the Mediterranean and the Persian Gulf. Now, in the routes taken of late days by the commerce between England and the East the successive improvements have consisted in the substitution of land for water—in other words, of railways for ships.

For example, in 1830, the outward bound Indiaman simply left a channel port, sailed all round the Cape, and then up the Indian Ocean to Bombay or Calcutta, as the case might be. The time consumed in the voyage was about 100 days.

In 1840 came those improvements which gave the new passage the distinctive name of the "overland" route, though the land journey as yet bore but a small proportion to the sea voyage. The steamer again left a channel port but turned eastward through the Straits of Gibraltar to Alexandria, from which place a land journey across the Desert to Suez brought the passenger to the shores of the Red Sea, where the sea voyage was again resumed. The time was reduced to fifty six days. Meanwhile the European Continent had been so far traversed by railways that first Marseilles and then Trieste might be reached, and thus a broad angle was saved, since the traveler proceeded nearly in a direct line from Ostend to Alexandria, and thence onwards as before. This brought the time to thirty-nine days, as it stood when the prophecy was uttered. The future was then prefigured by three maps to represent the periods of 1855, 1860 and 1865. In 1855 a railway along the Euphrates Valley was to open a communication by land with the head of the Persian Gulf, thus saving the circuit of the Arabian Peninsula, besides which a railway across India was to connect Calcutta with Bombay. By this, the time was to be reduced to nineteen days. In 1860 our prophet carried the European line straight across the Continent to Constantinople, and then again around the seaboard of Asia Minor to join the Euphrates Valley line. This would dispense with all the sea passage, except between Bussora and Bombay, and bring the time down to twelve days.

In 1865 the Persian Gulf route was to be itself superseded by a railway along the southern shores of Persia and Beloochistan to Hyderabad, in Scinde, where the Indian lines, then to be complete would meet it. Thus the whole journey became a railway journey from beginning to end, and would be easily per-

formed in ten days, or, without stoppages, in a week.

We have now only to look at Professor Chenery's pamphlet to see how these sanguine, though natural, prophecies have remained without fulfillment. Not only has 1865 passed away, but 1870 is close upon us, and yet we have not reached the stage marked out for 1855. There is no Euphrates Valley Railway, no railway in Asia Minor, no railway in Beloochistan, no railway even from Constantinople to Belgrade. Except for the Indian lines, we stand substantially where we stood in 1850; and even in India the line from Bombay to Calcutta is not entirely complete. Professor Chenery therefore does well to offer his practical suggestions for carrying out Sir Macdonald Stephenson's unfulfilled visions. He draws encouragement from accomplished facts which his precursor could hardly dream of. The great Atlantic and Pacific Railway, now actually opened, might well have appeared in 1855 a far more chimerical enterprise than the chain of lines from Constantinople to Kurrachee. In those days, too, it might have naturally been doubted what the Ottoman Government might say to such projects, whereas, as Professor Chenery now explains, the Porte is anxious to see railway communication introduced into its dominions, and is at this moment intent on connecting the capital with the European system of lines.

Nor do our advantages end here.

From the pioneering of the United States we have learned not only how to construct cheap railways, but how to endure railway traveling. A seven day's journey would be intolerable on the English system of locomotion; it would be no trial at all in carriages equivalent to moving hotels. As to distances, the sections, no doubt are of considerable length—1,700 miles from Calais to the Bosphorus, 1,500 more from the Bosphorus to Bussorah, and then the run from Bussorah to the Indian terminus. But the Americans have 40,000 miles of railway open, and Sir John Lawrence reckons that 30,000 will sooner or later be wanted for India alone, so that we need not think much of the work required to bring, as Professor Chenery expresses it, the 280,000,000 of Europe into communication with the 500,000,000 of Asia. We have, in fact, now learned how to make railways both cheaply and expeditiously; we have learned how to adapt the arrangement of the carriages to long journeys; we are keenly alive to the value of rapid communication with India, and we know that some, and can believe that others, of the Powers whose territories are to be traversed by the proposed line will cordially co-operate in the work. The Turkish Government desires nothing more than to see the necessary lines intersecting its territories, and, though nobody can exactly answer for Persia and Beloochistan, we do, at least, know from experience that such populations as we should meet with in those parts are well acquainted practically with their own interests, and rarely unwilling to strike a profitable bargain.

In all probability we could easily make it worth the while of both chiefs and people to furnish the police of the line for us, though we could hardly expect to encounter foes so troublesome as the Red Indians have proved to the Americans.

Such is the prospect placed by Professor Chenery before us, and nobody can pretend to doubt either the importance or the value of a line which will have "all Europe at one end and all Asia at the other." But what is to be the cost, and how is the money to be found? We

are told that the Turkish Government would actually make the line itself as far as the Persian Gulf if it could but command the means, and that it would cheerfully and liberally enter into engagements for the purpose with richer and more powerful States. Would it, then, be unreasonable or impolitic for the British and Indian Governments, in conjunction, perhaps, with others, to find necessary capital on security given by the Porte for current interest and ultimate repayment? That is the practical question to which the pamphlet brings us. If any of its "suggestions" should appear extravagant, let it be remembered that the whole project was deemed not only feasible, but probable, in a professional estimate, nearly twenty years ago. If the notion of a railway 5,000 miles long should seem a little wild, let the reader remind himself that its object is nothing less than to bring Calcutta as near to London as Edinburgh was a century ago.—*London Times*.

G. R. & I. R. R.—Chief Engineer Talcott is out in handbills inviting bids for chopping and clearing away twenty miles of the Grand Rapids and Indiana Railroad north from the village of Paris; proposals to be received at the Engineer's office in this city until the 25th inst. This section will reach to within seven or eight miles of the north line of Osceola county, and we should not be surprised if our Osceola neighborhoods see the iron horse in their midst before the close of 1870.—*Big Rapids Pioneer*.

Railroad Items.

—Three months ago Mr. L. D. Boyce of Rochester, N. Y., invented a safety car-wheel, which is now on exhibition in this city. The inventor claims that, even when a rail is broken in several places, the train can not leave the track. Yesterday a man was seated on the model car, and one of the rails was removed, yet the other rail held the car in its place while one side of it was dragged across the ties to the sound track beyond. The invention consists of an axle, with two wheels attached to either end. These wheels run on both sides of the rail, but they do not touch it except where the surface of the inner one rolls on the top. The bevel of the wheels is such that when a car is off the track, the outer wheels force it on again, for they cannot leave the track so long as there are any sound rails.—*New York Tribune*.

—The Allegan Journal has the following: "The old grade of the Grand Rapids & Indiana Railroad, between Grand Rapids and Kalamazoo, has been repaired and the road-bed overhauled, preparatory to the laying of the iron in the spring.

—A party of 13 commenced a survey on the 11th, of the Lansing, St. John & Mackinaw Railroad, at Lansing, and on the 16th were several miles north of De Witt.

—The Lansing & Ionia Railroad is now completed to Portland, 22 miles west of Lansing, and freights can now be shipped to Grand Ledge and Portland.

—The Texas Central has its terminus at present at Calvert, 180 miles north of Galveston. The contract for grading 20 miles beyond is let.

—The New York Central is to lay a double track between Rochester and Niagara Falls immediately.

Bridges of Coignet's Artificial Stone.

For about twelve years the "Beton agglomeré" of M. F. Coignet has been employed in France, at first sparingly, and with hesitation, but of late so largely and with so much confidence, that many of the large works in and near Paris have been constructed for the most part, or entirely, with this material.

So early as 1850, M. Coignet had experimented further than his predecessors Fleuret (1800) and Lobrun (1829), but the conglomerate he then produced was unsatisfactory. In the commencement he employed a crude mixture of coal cinder with lime, and subsequently he substituted sand for the former ingredient, and mixed it with powdered lime, moistening both together instead of wetting the lime as he had at first done. The second process to which he arrived, after modification and a long series of experiments with materials from different districts, and under varying circumstances, to ascertain the best proportions, is the system which has now grown into such a vast industry, and which bears his name.

The beton Coignet is a mixture of a large proportion of sand with a small proportion of lime, to which is added a percentage of cement varying with the amount of hardness or the rapidity of setting required. Only a very small quantity of water is employed to moisten the lime and sand. Thus tempered the mass is reduced, in a grinding mill, to a stiff paste, and is introduced into moulds of any desired form, being then subjected to the action of repeated and heavy blows. By this means it is thoroughly agglomerated, and the mould being almost immediately removed, the beton, shaped to the desired figure, shortly becomes set, and acquires the hardness of stone.

The material thus mixed and compressed under the hammer, when placed in the mould, receives a weight, strength, and density which renders it a thoroughly trustworthy building material. On the average 1.31 bushels of component parts, sand, lime and cement, make a cubic foot of beton, which will weigh about 140 pounds, and offer a resistance of some 2½ tons per square inch, while ordinary mortar, formed of the same constituents, will exhibit very insignificant powers of resistance. The difference arises principally from the difference in manipulation; in mixing mortar an excess of water is always used, which is distributed throughout the mass, and separates the particles of lime and sand, retarding the setting, and when after a time the water evaporates, it leaves the mortar more or less porous.

Theoretically, the Coignet process fills all the necessary conditions, and produces a perfect beton, the sand and lime being moistened with a minimum of water, and mingled as intimately as possible. Besides the thorough cohesion of the particles induced by the mixing and compression, the small quantity of water used makes the setting more rapid and more uniform.

In all cases the lime used should be hydraulic, in fine powder, and well screened, to free it from lumps; for if there are any lumps admitted into the beton they swell when the mixture is diluted, and weaken the material.

The cements used are always, if possible, heavy and slow setting. The quantity used is proportioned to the rapidity of setting required, and the hardness of stone which it is sought to obtain. For the third ingredient river sand, mingled with small pebbles, is the best. If the pebbles are large, the concrete

produced is rough and unsightly; if it is too fine, it retards the setting, and reduces the hardness. Pit sand will make very good work, but to produce a stone so good as that formed on a base of river sand, the proportions of cement and lime have to be increased. Very fine sands like those of the Landes, require very careful mixing and a prolonged compression in mould to produce a first class beton.

The ingredients are measured into a mixing mill in barrows, and during the process small quantities of water are gradually added as the mixing proceeds, until the beton becomes in the necessary condition; the more completely this part of the work is done the more rapid will be the setting, and the harder will the stone become.

The ordinary form of grinding mill employed consists of an iron cistern, the bottom of which is perforated, and in the center of which revolves a vertical shaft, armed with a number of helical knives, and carrying beneath it a cycloidal arm, which in each revolution discharges a part of the paste. A pen stock covering the outlet regulates the discharge of the beton. The material thus obtained from the mill is in a firm but plastic state, and it is thrown into a mould, in thin layers, and each layer, as it is laid in, is beaten and compressed by the regular and even blow of a sixteen-pound hammer. In order to secure a perfect adhesion and union of the different layers of material, especially when fine sand is used, it is generally the custom to cross cut the surface of the layer in order that the superincumbent thickness may be thoroughly united to it.

There are two kinds of moulding to which the Coignet beton is applied, the first being used when the material is employed *en masse* in place, the second when it is moulded in blocks to be subsequently employed. The moulds which are intended to be used in place are composed of close boarding kept in place by means of cross bracing. This mould carries the ornaments which are destined to appear upon the face of the structure after completion. In the second class of work all kinds of ornament can be produced from cornices to statuary.

Of late years the application of the Coignet beton has been equally extensive and varied. In Egypt, where it has been employed on a vast scale, light-houses have been reared out of the almost impalpable sands of the Isthmus of Suez. In Paris some 40 miles of sewers have been constructed of the same material; and arches of the basement buildings of the Exhibition of 1867, saw-mills at Aubervilliers, the numerous cellars of many private houses, entire buildings of five or six stories in height, railway bridges of Sainte Colombe, on the Paris, Lyons and Mediterranean Line, a church at Verinet, and above all, the large works connected with the new Paris water supply.

The exact proportion of materials employed on works of different classes, and with sand and lime produced from different districts, will be interesting. Thus the work about the Exhibition of 1867 was formed of a mixture by bulk of 5 of sand, 1 of lime, and ½ of cement. The same proportion holds good for the sewers, and the rapidity of setting is as great that the centering can be struck within ten hours after the beton is got in place, and the sewers can be put into service in four or five days after their completion. Arches, of which the rise is one-tenth of the span are generally made with a mixture of 5 of sand to 1 of lime, and ½ of cement in bulk.

The church at Verinet is one of the most interesting of the monolithic structure, and was constructed of sand from pits at Verinet. The mixture was 5 of sand to 1 of lime and ½ of cement. In the saw mill of Aubervilliers, the arches are 27 feet 10 inches in span, and 13½ feet thick at the crown, the proportions are also 5, and 1, and ½ of cement. One of the most generally useful applications of this material is in the construction of the basements of houses. In the ordinary forms of construction stone piers, supporting rubble masonry arches, are employed, involving numberless joints, and causing an absence of perfect uniformity. From this cause numerous settlements ensue, which are avoided by the use of the homogeneous beton; for the whole substructure can be made in one single block, over which the superincumbent load is equally distributed, and a uniform pressure upon the foundation is obtained. One house, in the Rue de Miromesnil, is constructed entirely of beton, and it contains two staircases, the one formed in the usual way, with a number of moulded blocks, the other a spiral staircase, from basement to garret—a monolith.

The drawings upon page 274 show two examples of the aqueducts now being constructed upon the works in course of construction for the supply of Paris with water from the Vanne. Already a part of the city draws its supply from the Dhuis, but the second portion of the system is not yet complete. The distance of Paris from the source of the Vanne is more than 94 miles, and in its course to the city the line has to traverse a series of valleys and ravines, to cross rivers, roads, and railways, and the numerous requirements of the works have involved the formation of extensive bridges, aqueducts, syphos, and tunnels. An immense reservoir will be completed close to the park of Montsouris, and a long aqueduct upon arches will be made almost close to the old Roman aqueduct of Arcueil. But the heaviest works upon the undertaking are those crossing the valley of Fontainebleau for a distance of more than twenty-five miles between the river Loing and the river Essones. This length, almost entirely without building materials, would have involved very costly works if masonry had been employed, and the Engineer-in-Chief, M. Belgrand, has therefore availed himself of the Coignet process, and utilizing the vast masses of sand that lay ready to his hand, has formed the works of beton.

Not only have the aqueducts been constructed of this material, but the tunnels also to the extent of several miles, about 6 feet 6 inches in diameter and 8½ inches thick, and these were all formed with the same success that has attended the application of the system to the sewers of Paris, the centres having been withdrawn almost immediately after the beton had been rammed into place. The aqueducts crossing the valley are supported upon arches, extremely light, and rising to a maximum height of 50 feet from the ground. The openings are about 42 feet 6 inches, and the thickness at the crown 15½ inches. The success which attended the application of this material in the construction of the narrow openings supporting the aqueduct induced the engineer to extend its use to those wider arches spanning rivers, roads, and railways, and a series of experiments having proved highly successful, monolithic structure, of 98 feet 6 inches and 115 feet 9 inches openings, and with one-sixth rise, were rapidly formed. Two of the principal of these works we illustrate, one of which represents the aqueduct across the valley of the Loing, the other, the aque-

duct of the Grand Matre in the forest of Fontainebleau.

It will thus be seen that while we refrained from experimenting (with one exception) in this method of construction, French engineers have advanced to recognize its value, and to employ it largely for a variety of work, having tested its reliability by a series of exhaustive trials. The single exception to which we refer is the concrete bridge constructed by Mr. Fowler across the Metropolitan Railway at Kensington, but even that experiment was scarcely analogous, for the material employed was simply concrete, mixed with cement it is true, but mixed in the ordinary way, and thrown into the mould instead of being carefully set in layers and well combined, as in the Coignet process. But the extensive adoption of concrete structures in France will probably be followed by an equally extended adoption of the system here.—*Engineering.*

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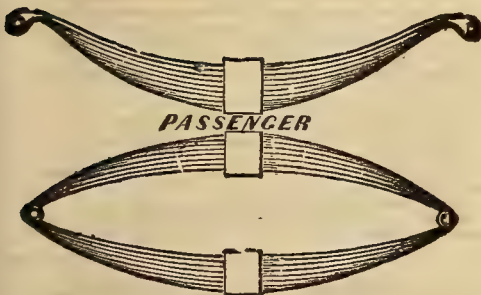
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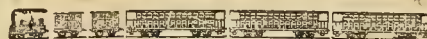
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RAILROAD!****FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
(Express); 2.30 P. M.; 11.30 P. M. night.
On Sundays 4.30 A. M.; 11.30 P. M.Leave Baltimore for North and West 7.35 A. M.; 10.20
A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
P. M. (Express)SUNDAY TRAINS—Leave Philadelphia for Baltimore
at Washington at 4.15 A. M., and 11.00 P. M. Leave at
timore for Philadelphia at 8.25 P. M.Leave Philadelphia for Wilmington at 11.30 P. M. Leave
Wilmington for Philadelphia at 8.30 P. M.**The Old And Reliable Route.**

Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAIL-
ROAD, in connection with the Cincinnati, Hamilton &
Dayton, and Little Miami Railroads, still continue to trans-
port produce and merchandise between Cincinnati and
Pittsburg, Philadelphia, Baltimore, New York or Boston,
and all Eastern points with the greatest promptitude and
dispatch.For Rates, Bills of Lading, or any information desired,
shippers will please apply toH. W. BROWN & CO.,
No. 27 West Third Street, Cincinnati.W. P. SHINN, General Freight Agent.
Pittsburg, Pa.**LOUISVILLE & CINCINNATI
SHORT-LINE RAILROAD.****Time only 5 hours****Fare Only \$3.50—Transfer from Hotel or
Residence to Depot, in Covington, Free.****THE SHORTEST ALL-RAIL ROUTE TO
Louisville, Nashville, Memphis, New
Orleans, and all points South.**

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail.....	7.00 A. M.	2.30 P. M.
Evening Express.....	5.45 P. M.	9.00 P. M.
Walton Accommodation.....	4.00 P. M.	9.30 A. M.

The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
the Walton Accommodation, offer great inducements to the
citizens of Cincinnati and Covington who wish to pur-
chase country residences or small farms for gardening.
This train leaves late in the afternoon, and arrives early
next morning, giving all day to attend to business. For
further information as to routes, low fare, &c., please apply
at No. 1 Burnet House, or Depot, Covington, Ky.

SAM'L GILL, Gen'l Sup't. Louisville.

CENTRAL R. R. OF NEW-JERSEY.Passenger and Freight Depot in New York, foot of Lib-
erty st., connects at Hampton Junction with the Dela-
ware, Lackawanna, and Western Railroad, and at Easton
with the Lehigh Valley Railroad, and its connections,
forming a direct line to Pittsburg and the West, without
change of cars.**ALLENTOWN LINE TO THE WEST.**Sixty miles and three hours saved by this line to Chicago,
Cincinnati, St. Louis, etc., with but one change of cars.
Silver Palace cars through from New York to Chicago.**FALL ARRANGEMENT.**Commencing August 30, 1869. Leave New York as
follows:6:55 a. m.—For Easton, Bethlehem, Mauch Chunk,
Williamsport, Wilkesbarre, Mahoney City, Tuckahoe, &c.7:15 a. m.—For Somerville.
8:30 a. m.—For Flemington, Junction, Stroudsburg,
Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.12 m.—For Flemington, Easton, Allentown, Mauch
Chunk, Wilkesbarre, Reading, Columbia, Lancaster,
Ephrata, Luz, Pottsville, Scranton, Harrisburg, &c.3:30 p. m.—For Easton, Allentown, Mauch Chunk
and Belvidere.

4:30 p. m.—For Somerville.

5:25 p. m.—For Somerville and Flemington.

6 p. m.—For Easton and intermediate stations.

7 p. m.—For Somerville.

7:20 p. m.—EMIGRANT—Stopping only at the principal
stations.

9:00 p. m.—For Plainfield.

11:50 p. m.—For Plainfield, on Wednesdays and
Saturdays only.**FOR THE WEST.**9 a. m.—WESTERN EXPRESS, daily, (except Sundays,) for
Easton, Allentown, Harrisburg, and the West without
change of cars to Cincinnati or Chicago, and but one
change to St. Louis. Connects at Harrisburg for Erie and
the Oil Regions. Connects at Junction for Stroudsburg,
Water Gap, Scranton, &c. Connects at Phillipsburg for
Mauch Chunk, Wilkesbarre, &c.5 p. m.—CINCINNATI EXPRESS, daily (except Satur-
days,) for Easton, Bethlehem, Allentown, Reading, Harris-
burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars
to Pittsburg and Chicago. Connects at Junction with
Delaware, Lackawanna and Western Railroad for all sta-
tions to Scranton. This train will be run to Easton on
Saturdays as a local train, stopping at principal stations.8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,
Allentown, Reading, Harrisburg, Pittsburg, and the West
—connects at Harrisburg with train for Williamsport, Erie,
&c.Sleeping cars through from Jersey City to Pittsburg
every evening.Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15,
8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:10, 2:0
3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25,
7:00, 7:20, 7:40, 8:00, 9:00, 9:40, 10:45, 11:50 p. m.Tickets for the West can be obtained at the office of the
Central Railroad of New Jersey, foot of Liberty st., N. Y.;
at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at
No. 10 Greenwich st., and at the principal hotels.R. E. RICKER, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - } Editors.
T. WRIGHTSON, - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, DECEMBER 9, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

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The President's Message and Documents.

We have all the public documents which are usually sent in with the President's Message, and there are many things in them which deeply concerns all business men. Perhaps the most interesting part of it is what the President says of the currency and the means taking to resume specie payments and pay off the public debt, or diminish the taxes. On all these points the President is conservative in the true sense of that word. Specie payments must be resumed at some time, the obligations of the government must be fulfilled in letter and spirit; and as fast as the debt is reduced the taxes can be reduced. But the President is in no hurry. He advises the general revision of the tariff, and the internal taxes be postponed till the next meeting of Congress; and in our opinion, that is wise. The country needs PEACE in all senses of that word. The end of the war of arms was not the end of the war in fact. Then commenced the war of feeling, the war of legislation, the war of reconstruction, the war of commerce, and many of the disturbances which must arise out of a great civil war. Now, what the country wants is a real, generous peace on all subjects. The subject of commerce, currency, tariffs, are not subjects which will point with safety to a perpetual agitation and war of interests. We have one set of men clamoring for more money, when the country has the greatest abundance of money. There is another set of men clamoring to pay the bonds in greenbacks, and there is another clamoring to reduce the tariff, and put the whole tariff on coffee, tea, spirits, &c. We have had a Professor Perry going through the country preaching free trade doctrines, and totally

ignorant of the actual statistics of trade and manufactures, uttering the most inconceivable nonsense. We have various sects of this sort, all of whom would tinker with some branches of public economy. Upon all these theorists the President's Message has put a stopper, as far as the President's influence can do it. The President began with the assertion that the country wants *peace*, and he has faithfully done all in his power to make peace. It remains for Congress to help the President in his good work by doing *nothing* suddenly or violently. The political machinery is all working well now, and a man of common sense will let "well" alone. From 1854 to 1865 we had nothing but agitation, violence and commotion. Since 1865 the waves have been gradually subsiding. Business is getting into its old channels; speculation has almost ceased, and gambling on a large scale (always excepting Fisk and Vanderbilt) has almost ceased. In this state of things the regular merchants, manufacturers, and traders of the country want a uniformity and stability of laws. They don't want either great changes or agitations. They don't want the experiment made, whether the country can be blown up in one way better than in another. They don't want it blown up at all. That the President's Message directs itself very much to that point, let us look at some of the points:

1. The first thing, says Grant, is "strict integrity in fulfilling all our obligations," that, with the action of Congress settles that point. What are our "obligations?" Every dollar the government has *promised* to pay, whether in bonds, greenbacks or any thing else is an *obligation*. What is the obligation? To pay *dollars*. What is a dollar? So many grains of gold or silver defined by law. Then we must *pay* so much gold or silver, as the law says, and all who are interested in it may know that it will be done to the last dollar.

2. The currency (says Grant) ought to be made redeemable in specie; because, with an unredeemable currency every man who trades is an involuntary gambler, speculating on what the currency will be worth in the future. This is well said, and a good illustration; but, as the currency is fast appreciating, and has already appreciated so much that it has reduced prices much, Grant thinks there is no need of hurrying it. The President says:

"It is a duty, and one of the highest duties of the Government, to secure to the citizens a medium of exchange of fixed, unvarying value. This implies a return to a specie basis, and no substitute for it can be devised. It should be commenced now and reached at the earliest practicable moment, consistent with a fair regard to the interest of the debtor class. Immediate resumption, if practicable, would not be desirable. It would compel the debtor class to pay beyond their contract the premium on gold at the date of their purchase, and would bring bankruptcy and ruin to thousands. Fluctuations, however, in the paper value of the measure of all values of gold is

detrimental to the interests of trade. It makes the man of business an involuntary gambler, for in all sales, when future payment is to be made, both parties speculate as to what will be the value of the currency to be paid and received. I earnestly recommend to you, then, such legislation as will insure a gradual return to specie payments, and to put an immediate stop to fluctuation in the value of currency."

The Government has no power to stop "fluctuations" in the value of paper money, except what Mr. Boutwell has already adopted of selling gold and buying bonds. For example, in selling bonds, the Secretary can say, and has said, that he will not buy under a certain price. The effect of this, the other day, in New York, was undoubtedly to keep gold from falling lower. Congress can not and will not do anything more than to allow the Secretary to furnish such measures. The value of gold and of paper relatively depend on the relation of supply and demand, and not on acts of Congress.

3. Of the National debt, Mr. Boutwell says:

THE DEBT, SINKING FUND, ETC.

"Including interest earned and not paid, and deducting cash on hand, the debt of the United States on the 1st of March was \$2,525,463,260 01; and, subject to the same condition, it was \$2,453,559,735 23 on the 1st of the present month, showing a decrease of \$71,903,524 78. This apparent decrease of the public debt is less than the actual decrease. Considerable sums have been paid on account of war and other old claims not previously ascertained."

This gives about \$96,000,000 paid on the public debt in a year at the same rate. The debt being now \$2,453,559, the payment of one hundred millions per annum would pay the whole off in sixteen years. We can do that and take off fifty millions of taxes per annum. Why not do it? At any rate we ought to pay something off each year.

4. Our account current. If we are paying off a hundred millions per annum, then, of course, our accounts are pretty good. Mr. Boutwell gives the following statements:

RECEIPTS, EXPENDITURES AND ESTIMATES.

The following statement exhibits the receipts and expenditures for the fiscal year ending June 30, 1869:

RECEIPTS.	
Customs.....	\$180,048,426 63
Internal revenue.....	158,356,460 86
Lands.....	4,020,344 54
District tax.....	765,685 61
Miscellaneous sources.....	27,752,829 77

Total exclusive of loans....\$370,943,747 21

EXPENDITURES.	
Civil service.....	\$ 56,474,061 53
Pensions and Indians.....	35,519,544 84
War Department.....	78,501,990 61
Navy Department.....	20,000,757 97
Interest on public debt.....	130,694,242 80
Premium on 7 3-10 per cent. United States Treasury notes.....	300,000 00

Total, exclusive of loans\$321,490,597 75
Receipts in excess of expenditures..... 49,453,149 46

That was for the year ending the 30th of June last. The account for the current year stands thus:

The following statement exhibits the receipts and expenditures for the quarter ending September 30, 1869:

RECEIPTS.

Customs	\$52,598,921 86
Internal revenue	47,926,352 51
Lands.....	893,864 08
Miscellaneous sources.....	7,412,483 57

Total, exclusive of loans...\$168,831,622 02

EXPENDITURES.

[After deducting the amount of repayments by disbursing officers and others]

Civil service.....	\$15,102,202 05
Indians and Pensions.....	13,547,912 79
War Department.....	13,595,468 05
Navy Department.....	5,782,630 96
Interest on the public debt.....	37,452,270 74

Total exclusive of loans....\$85,480,517 59

Receipts in excess of expenditures..... 23,351,107 44

The estimated receipts and expenditures for the three remaining quarters of the fiscal year ending June 30, 1870, are as follows:

RECEIPTS.

Customs.....	\$135,000,000 00
Internal revenue.....	127,000,000 00
Lands.....	4,000,000 00
Miscellaneous sources.....	2,000,000 00

Total.....\$286,000,000 00

EXPENDITURES.

Civil service.....	\$40,000,000 00
Pensions and Indians.....	21,000,000 00
War Department.....	40,500,000 00
Navy Department.....	14,000,000 00
Interest on public debt.....	93,750,000 00

Total.....\$209,250,000 00

Estimated receipts in excess of expenditures..... 76,750,000 00

It will be observed that the actual results of the first quarter gives an excess of receipts of \$23,351,107, which at the same rate for the year gives \$93,000,000.

The Secretary's plan for making the new loan is thus expressed:

RE-FUNDING.

"Assuming that the proposed loan will be for an amount not exceeding \$1,200,000,000, I recommend that it be offered in three classes of \$400,000,000 each, the first class of \$400,000,000 to be payable in fifteen years, and to be paid in twenty years; the second class of \$400,000,000 to be payable in twenty years, and to be paid in twenty-five years; the third class of \$400,000,000 to be payable in twenty-five years, and to be paid in thirty years.

The essential conditions of a new loan appear to me to be these: First, that the principal interest shall be made payable in coin; second, that the bonds known as 5 20 bonds shall be received in exchange for the new bonds; third, that the principal be paid in this country, and the interest payable either in the United States or in Europe, as the subscribers to the loan may desire; fourth, that the rate of interest shall not exceed four and a half per cent. per annum; fifth, that subscribers in Europe shall receive their interest at London, Paris, Berlin, or Frankfort, as they may elect; sixth, that the bonds, both principal

and interest, shall be free from taxes, deductions, or abatements of any sort, unless it shall be thought wise to subject citizens of the United States to such tax upon income from bonds as is imposed by the laws of the United States upon incomes derived from other money investments."

We should suppose this plan would succeed. In general, money is not worth more than three per cent. in England, and a long loan on United States bonds at four and a half per cent. ought to be above par.

It is evident from the recent state of the bond market in Europe, that confidence in United States securities has greatly increased. It was not any idea of repudiation that kept the price of Government bonds down, but it is the *semi-repudiators*, those who wanted to pay the bonds in greenbacks, or scale the public debt, and yet who assumed to be tolerably honest men. While that question was agitated Europe could not be expected to have a great deal of confidence; but since the utter defeat of the agitators, politically, and their defeat again in the President's Message, and the firm course of the Government in sustaining public credit, there is, and we think there will be a much greater rise in public confidence and the value of public securities. A six per cent. bond of the United States ought now to be at 1.50 in gold, and more in currency. If the policy of the Government be firmly persevered in, we think the six per cent. will bear that. Our five per cent. are now 1.03, and the four and a half per cent. will probably be at par. This bears directly on the question of specie payments, for if four and a half per cent. are at par, the Government can command any amount of gold, and resume specie payments when it chooses. We look, therefore, with great interest to the success of Mr. Boutwell, and think Congress will give him all the power necessary to fund the debt.

On the whole, the affairs of the country are going on well and prosperously. The country is well nigh restored to peace, and it can not be many months before we can say with Richard:

*And all the clouds which lower'd upon our house,
Are in the deep bosom of the ocean buried.*

On Tuesday, Nov. 30, a party of gentleman from Kalamazoo, Michigan, rode out to inspect the work done on the Kalamazoo & South Haven Railroad, seven miles of which are now finished and seven more ready for the iron. It is expected to reach a point on the Paw Paw & Allegan Railroad by the first of January, which is to be the terminus for this winter. The Kalamazoo Gazette, from whom we obtain this information says, "it is computed that over 1,000 car loads of lumber are waiting at this point for the completion of the road—enough to give it a paying business until spring opens."

Louisville on the War Path.

[From the Frankfort Commonwealth.]

The prospect of the completion of the Cincinnati Southern Railroad through Kentucky seems to have given Louisville an ungovernable fit of passion. She straightway dons her plumes, paints her face, executes a war-dance, brandishes her weapons and starts upon the war path against the inroad that is to be made upon the people of Kentucky by the construction of the proposed thoroughfare. This fierce commencement of hostilities is not based upon the fact that it is a defensive act towards the people of Central and Southeastern Kentucky, but simply an ungracious opposition to the construction of a road that is designed to bring other cities into fair competition with Louisville. The monopoly enjoyed by the latter city, whereby all Southern trade has to pause within or pass through her municipal limits, will probably be interfered with, but what of that? Does Louisville desire to hold the position of a monopolist? Is she not in favor of free trade and unrestricted competition? For the sake of her own selfish purposes would she desire that portions of Kentucky be deprived of railroad facilities to the end that they be kept tributary to herself? That is both ungenerous and unreasonable.

And yet it seems that she is being actuated by motives of this complexion. For why else does she argue against the constitutionality of the Ferguson bill, or against the expediency of Cincinnati expending ten million of dollars to build a railroad in Kentucky? Why does she send representatives to Tennessee to lobby in the Legislature of that State against the granting of a charter to the Cincinnati Southern Railroad? Why does she concoct schemes to oppose any liberal franchise that may take origin in the coming Legislature of this State, favorable to the proposed line?

If Louisville desires to construct a formidable and powerful antagonism between herself and the citizens of Central Kentucky, she may continue in her present course. The people of that region, once aroused, will be no small impediment to her progress and growth. Nor will she fail to achieve what they desire. Louisville can not limit the enterprise of any section that has become imbued with its spirit. As well may she bind a giant with whipcord. Her proper course would be to give a kindly word to all sections of the State that are striving to develop their natural resources, and to offer them a fair competition for whatever character of trade they may possess, adapted to her wants. By doing this, she will bind to herself the favorable disposition of those whom she is now driving further and further away from her by her present savage warfare. The speedy development of Kentucky will contribute to the prosperity of Louisville, if she is disposed to act in good faith towards the people of the State—otherwise, she may whistle for trade when it is too late. Let her be warned in time.

The Commonwealth no doubt only expresses and gives shape to the general feeling that exists almost all over the State of Kentucky, outside of Louisville and the territory adjacent to the Louisville railroad, in favor of the construction of any works of internal improvement calculated to enable producers to obtain better prices for the results of their labors, and to procure their supplies at less cost. Railroads will do this, and the people of the interior of Kentucky

know it. They have wagoned it and staged it long enough to be tired of both the expense and the labor, and will hail the iron horse (no matter whose horse it may be) with joy. We know this to be the case, and while the advocates of the supposed interests of Louisville in the Kentucky Legislature, may be better organized, more united and determined, than the friends of progress and development, yet there is such a consciousness of the necessity for something to be done to develop the dormant energies and resources of the State, that we think the plain, straightforward business proposition of the Trustees of the Cincinnati Southern Railway, when submitted, will meet with favor, and although it can not pass through every man's farm, nor make every village in the State a city, it will be regarded as the harbinger of other enterprises that possibly may. The Cincinnati Southern Railway is not the only one in Kentucky in which Cincinnati has a very large interest, in common with the citizens of that State, and it would be well for Cincinnati to lend such aid as may be in her power to secure their completion. It, indeed, is her duty as well as interest to do so.

Convict Labor.

The largest manufacturing establishment in Indiana is said to be the State Prison at Jeffersonville. The labor of the convicts is hired by contractors at 45 cents per man per day.

Yes! and what is the result? Why, merely that half a dozen contractors get rich on the product of cheap convict labor, while thousands of honest sons of toil are forced to compete with them in price or be driven from the market. No one can, for a moment, fail to see the unequal competition between convict labor at 45 cents per diem, with steam and machinery added, with honest toil at \$2.50 to \$4.00 per day. Who is the sufferer, in such a competition? Clearly, is it not putting a premium on crime, and driving the honest artisan to subterfuge and roguery to compete with the criminal? It is by this custom of convict labor that some departments of honest handicraft have been almost entirely obliterated from the list of manufactures outside of prison walls, and the operatives forced to seek other means of subsistence. It is, to say the best, a doubtful policy that puts the price of convict labor at so low a figure; if 25 per cent less per day per man than the price paid to honest labor, should be charged, it would still leave a large margin to contractors, would not be ruinous competition to honest labor, and would furnish a surplus fund over and above the cost of the convicts living, out of which to reward him for good conduct, faithful service, etc., at the period of his discharge from prison. He would not then be turned loose upon the world "with a penny" and forced into crime to gain a home and a living.

NEW YORK INDEPENDENT.—The publisher of this really ably edited paper sends us a copy, and requests us to notice it. We remark that the *Independent* is too well known to need it. The occasion of this (we suppose, universal) sending out, is the "twenty-first birthday" of the Journal. All remember, when they were "little ones" how long it seemed to wait for the annual festival, but especially the prospect ahead when they were to attain their majority. The *Independent* seems to be no exception to the general rule. It talks and acts just like as if it wanted to give everybody "a spree," and was ready to promise every thing to every body. It is not a bad paper to read, and although we do not propose to endorse all it has heretofore said, or all it may say in the future, yet we believe, with all its *isms*, including even *radicalism* that most men may profit by it. At any rate if all the numbers of their issue for the year contains half as much *good* matter as the one now before us, the subscribers will get their "money's worth" if they should have to throw away the other half. Some of the very best writers of the country are engaged among the contributors and we doubt not the *Independent* will fully sustain its past reputation.

The total debt of the State of Kentucky, on Oct. 10, 1869, is stated by the Governor, in his message to be \$3,307,177.52, from which should be deducted the amount of bonds dedicated to the School Fund and not redeemable \$1,648,283.52, making the actual debt of the State only \$1,657,894.00. This the State is ready to pay as soon as presented—the Sinking Fund being more than ample to liquidate the entire indebtedness. Happy State that!

E. F. Johnson, Esq., connected with the Northern Pacific Railroad, at a recent convention expressed the opinion that the "Straits of Mackinaw can not be bridged." Some other people have entertained the same opinion! Is it not possible they are all mistaken? and that it is merely a question of cost—dollars and cents? The distance is four miles.

GOLD DISCOVERY IN MARYLAND.—The *Washington Star* of a recent date says that a mass of gold, weighing nine ounces and a half, and worth about \$150, was discovered on the farm of Mr. Robert G. Davidson, in Montgomery county, Md., distant nine or ten miles from Georgetown. It was imbedded in brown quartz, recently turned up by the plow-share, and partially broken so as to disclose the glittering ore. It has been subjected to chemical tests, and proves to be of great purity.

It is proposed to avoid Hell Gate, by cutting a canal through Astoria 2,000 feet long, 600 feet wide, and 34 feet water depth at low tide. This canal to connect Long Island Sound with the East River, is estimated to cost \$3,000,000, and would require two years for its construction.

Letter from General Fremont.

PARIS, Sept. 18.—In order to reply to the false allegations directed against the Memphis, El Paso, and Pacific Railroad Company, by parties interested in discrediting it, the subscriber, as President of the Committee of Management declares:

1. That the concession of the line has been regularly definitely accorded to the company by the following laws of the Texan Legislature, namely, those of Feb. 4, 1856, Feb. 5, 1856, Feb. 10, 1858, March 20, 1861, Jan. 11, 1862, March 30, 1866, Nov. 13, 1866.

2. That all privileges, franchise and property accorded to the company remain in full force and require no new sanction, not even that of the United States Congress.

3. That the mortgage forming the guarantee of the bonds issued, is a first mortgage, perfectly regular, and of such nature as to legally secure the bondholders.

4. That the building of the road to Texas is being carried on with all possible activity, and that the contracts concluded by the company secure the completion of the earthwork by the 1st of next March, to the extent of 150 miles.

5. That large orders for rails, locomotives and material have been given in France to M. Kœchlin of Mulhouse, and to the Societe de Vevin Aulnoy of Manbeuge, and to the amount of these orders has been deposited in banks of the first standing, and that even, at this moment, a vessel is bound for Antwerp to convey the first cargo of rails.

6. That Gen. Hunter and M. Sedgwick, the former being the manager, and the latter engineer of the Californian section of the line, are at San Diego to commence the building of that section.

7. That the company owns in addition to the lands mortgaged the following: A—1,023 acres at the port of Norfolk on the Atlantic side. B—9,000 acres at the port of San Diego on the Pacific side. C—600,000 acres in Texas independently, we repeat, of the lands placed under mortgage.

8. That the company have acquired, by purchase or by the consolidation of other lines, and the following concessions which correspond with the principal line, and shall henceforth form an integral part, namely, A—The concession of the San Diego and Gila line in California, 160 miles long. B—The concession of the Arizona line, about 500 miles long. C—The Memphis and Little Rock line, the greater part of which is in operation.

9. That the whole of these properties gives to the company's bondholders a general security, forming in some part the complement of the guarantees in which they are specially interested.

The bondholders may be assured that the Directors of the company, aware of their duties, will employ all their energies to defend the interests of the company and its bondholders. I hope that these declarations, as categorical as they are sincere, will put an end to the persistent calumnies of which the Memphis, El Paso and Pacific Railroad is the object.

J. C. FREMONT, Pres. of Com. of Management.

It is said that two beds of coal, one of 14 feet in thickness, and at a depth of 119 feet, and another of 6 feet in thickness, 134 feet deep have been discovered at Providence, R. I., while boring for water. The coal is reported to contain 80 per cent of carbon.

The New Road.

HOW IT IS TO BE BUILT AND WHO IS TO BUILD IT.

The following amounts have already been subscribed and voted to the Louisville, Harrodsburg, and Virginia, and the Cumberland and Ohio Railroads, by the counties through which these two roads are to run:

Spencer.....	\$250,000
Washington.....	400,000
Marion.....	500,000
Taylor.....	300,000
Adair.....	300,000
Cumberland.....	300,000
Making...	\$2,050,000

This \$2,050,000 represent stock already subscribed by the votes of those counties, and which will be turned over to the Louisville and Chattanooga road whenever the people of these counties see that there is a solid and reliable movement made to build the Louisville and Chattanooga road.

We confidently expect to get from justice districts in Jefferson and Nelson counties the sum of \$200,000, and from the city of Louisville the sum of \$2,000,000, which, taken together and added to the amount, make \$4,250,000. The counties of Cumberland and Adair have subscribed \$30,000 private stock to these roads, which will go as the public subscription does, and with the extraordinary advantages of this road, and from the interest already shown by the true and solid men of Louisville and the counties through which it will run, we can safely calculate that in Louisville and those counties there will be subscribed at least \$500,000 in private stock, which, taken with the \$30,000 and added to the public subscription, makes the sum of \$4,780,000 to Kentucky alone. What will Tennessee do is the only question discussed in Louisville and Kentucky. Now add to this subscription the amount to be voted and subscribed by the people of Tennessee and you have an amount ample to build this road. No road ever started with such capital and certainty of success. The people subscribing stock and the counties in Tennessee and Kentucky voting stock will own this road. It will be theirs, like their cattle and horses. It will not be the liberal donations of a deluded people to a Northern city. If gentlemen in Tennessee think these are simply figures, and not fixed facts, let them write to the Judges of the counties mentioned as having already voted their stock and the truth or falsity of these statements can be easily ascertained. We invite investigation as to these facts and as to the intentions of Louisville and the men who represented her in the great meeting held in her court house, on last Friday evening. Thos. E. Bramlette, formerly Governor of Kentucky, D. B. Harris, and James M. Duncan, of this city, were appointed a committee to go to Nashville and Chattanooga to solicit a charter for this road from Tennessee, and to explain to the citizens of Chattanooga the condition of things in Louisville and the State as to this road, and the two former left by the train last evening for those points to discharge their official duties.—*Courier-Journal*, Dec. 6th.

The "Niagara Elevator" at Buffalo, N. Y., is capable of holding 800,000 bushels of wheat, and can handle 21,000 bushels per hour, is built, almost exclusively of iron and stone, is considered "fire proof." The "Niagara" contains 144 bins, with a varying depth of from 52 to 73 feet.

The Tax upon East and West Railroad Traffic.

There are at present, practically, four great railroad routes between the Mississippi river and the four chief cities of the Atlantic seaboard; which may be designated thus: 1, the Vanderbilt or New York Central combination; 2, the Erie and Great Western broad gauge lines; 3, the Pennsylvania Road and its extensions; 4, the Baltimore and Ohio system. Each of these lines have their interlacing branches, feeders and extensions at either end, but by consolidation of interests particularly in the passage of the Alleghany range, they constitute the four lines lying between the Great Lakes and the Ohio Valley. Their average length between tide water and the Mississippi is not far from 1,100 miles of main line. The cost of those four lines, embracing about 4,500 miles with about 60 per cent. additional of leased branch lines, is about 350 millions of dollars. Many of them have been lavishly built; consolidations and leases have been made upon extravagant terms, so that we now find that the first named line, for instance, represented, according to the latest published statements, by a hundred millions of money, of which 70 are share capital and 30 funded debt. The second tier of roads is represented by 1,200 miles of main line and a share capital of 120 millions and 70 millions debt. The third line has about 60 millions of capital and forty millions debt. The last named, to Cincinnati only, 35 millions of capital and twenty millions of debt. Its prolongations to the Mississippi would probably foot up 40 millions additional. The share capital and debt of these four lines prolonged to the Mississippi cannot be less than 500 millions of dollars, or a full third more than the railroads have cost, and a third more than they could now be built for. So large is the debt and so large the capital stock of nearly all of the roads that to pay interest and dividends amounts to a very onerous tax upon the travel and traffic moving between the east and west. So onerous, indeed, that it has been proposed to build another and a shorter line of 1,600 miles at a cost of seventy-five millions; or at the rate of \$75,000 per mile. Such a double track road could be built and equipped for the money if the franchises were procured. Doubtless such a scheme would encounter serious opposition from the existing lines in the courts and legislatures, but it could be built and it is demonstrable that after the rates had been reduced 25 per cent., with only an equal share of the business, the returns would net ten per cent upon the investment.

The gross earnings of the Vanderbilt lines last year are given at 44 millions; those of the Pennsylvania tier to the Iowa line are given at 36 millions. The Erie combination to the Mississippi at 25 millions. There is a total of 105 millions of earnings for these lines; of which say 66 6 was consumed by expenses which would leave 35 millions applicable to interest and dividends; or nearly 10 per cent. upon the funded debt and share capital of the roads.

The time for such an independent central thoroughfare, perhaps has not come and it is probable that the project would encounter much opposition in States where there is no general railroad law. In the meantime we perceive there is a new line now rapidly pushing into the very field of production embraced by the great cities of Cincinnati, Louisville, Saint Louis and Chicago. It is a short line to tide water, and has the advantage of an equable climate, adjacent coal de-

posits and low ruling grades. We refer to the Chesapeake & Ohio Railroad (formerly the Virginia Central,) begun, and for some time carried on, under the auspices of the State of Virginia. This line, which reaches unflinching navigation, at Richmond, Norfolk, West Point and Washington on the Chesapeake Bay, was carried in a general western direction across the Blue Ridge, and when the war broke out was halted at Corvinton, (205 miles,) the foot of the main chain dividing the waters of the James from those of the Ohio tributaries. The enterprise so long cut off and set back by the cloud of war, has at last enlisted the attention of eminent New York capitalists, who have been won by its merits and it has been reconstructed on a more solid basis. Messrs. A. A. Low, W. H. Aspinwall, C. P. Huntington, David Stewart and other eminent capitalists, leading men in the country in finance and railways, with Fisk & Hatch as their bankers, are the active men in the new organization, and having in the twelvemonth past completed their arrangements, now proceed to put them in force. A corps of workmen are to be put on the line at once, and it is expected that the road will be completed and equipped to the confluence of the Big Sandy and Ohio Rivers in less than two years.

At this latter point roads are always building and projected to connect it with Cincinnati via Maysville with Louisville via Lexington, with Chicago via Toledo and Xenia, and with Columbus via Portsmouth. Through these channels it will reach the whole Mississippi valley system and the Pacific railroads. It is said the distance between Chicago and Washington by this route is no greater and can be made in better time than by the Pennsylvania, or Baltimore & Ohio routes, while from the central tier of cities the distance is fully fifty miles shorter to tide water and the gradients are thirty per cent. lighter. The great feature of the business of the line will be found, however, in its touching nearly twelve thousand miles of steamboat navigation at its terminus in the Ohio River. Below the Kanawha and Big Sandy tributaries the Ohio is navigable all the year and boats can receive and discharge cargoes bound to and from most distant cities of the Mississippi valley.

This is emphatically a short line;—less than 400 miles between the products of the West and the vessels of the Atlantic and its low average gradients, only occasionally reaching 70 feet to the mile, are of the utmost importance in handling freights.

RAILROADS IN VERMONT.—The following railroads were chartered at the last session of the Vermont Legislature, viz: The Northern Vermont and Lake Champlain from Cambridge, Vt., the Essex Junction; the Missisquoi and Clyde River; the Barre Railroad; the Manchester and Jamaica; the Brattleboro' and Pawlet River; the Wantastiquet Valley; the Runaway Pond Railroad; the Rutland and Bethel; the Brattleboro' and Bennington; extension of Lamoille Valley road to McQuam Bay, in Swanton.—*R. R. Journal*.

The Croton aqueduct can flow, daily, 27,000,000 gallons of water; the Philadelphia works about 15,000,000; Boston, 12,000,000; Jersey City, 3,000,000. Marseilles, France, will soon have an aqueduct capable of supplying 288,000,000 of gallons of water per day of twenty four hours, or 200,000 gallons a minute.

Canada Grand Trunk.

We have already noted, as an item of current news, the arrival in Canada of Hon. Richard Potter, President of the Grand Trunk Railway Company, who with Mr. C. J. Brydges, Managing Director of the Road, after making a thorough examination of the construction, equipment and working system of the line, has recently visited Chicago, St. Louis and the West, for the purpose of acquainting himself with the general condition of our railways, studying their relations to the Grand Trunk system, and devising means to enable that line to secure its due, and a larger share of the through traffic.

We are authoritatively informed that, as a result of their investigations, it is the opinion of President Potter that the policy which Mr. Brydges has so long urged on the stockholders should be adopted at once, if the Company expect to share equitably in through traffic in the face of the sagacious and liberal policies of competing lines. Fortunately, the Road itself is already, thanks to the foresight and energy of the Managing Director, in a state approximating adequate preparation for this work. The track has been improved the past year by the addition of no less than 14,000 tons of new iron rails. In addition to this, 5,000 tons of steel rails will be laid early in the coming spring, at points where the traffic is heaviest; and it is the purpose of the management hereafter to supply all portions requiring to be relaid, with steel rails. In rolling stock corresponding improvements have been inaugurated. The management have contracted for 600 new freight cars, to be placed on the road early in 1870; and have arranged with the National Dispatch Line (which operates exclusively on the Michigan Central, Grand Trunk, and Vermont Central Railways) to add at once 300 cars to their Changeable Gauge Freight Equipment. By these cars, which have proved a great success, shippers at Chicago, St. Louis, and points west can consign freight to Boston and all points in New Hampshire, Vermont and Massachusetts without breaking bulk, in the certainty that it will be delivered without delay in good condition. The locomotive equipment of the Road, which now numbers about 325 engines, will receive substantial additions.

In the passenger business the great drawback experienced by the Company in securing a proportionate share has been due to failure to place on the line cars equal in all respects, especially in matters of decorative art,—to those but recently introduced, mainly through private enterprise, on competing routes. Early the coming spring this defect will also be remedied, as arrangements are making to secure by that date a full complement of palace, drawing-room and sleeping cars second to none in this country.

When, at an early day, these arrangements are perfected and operative, we believe that the Grand Trunk Line will offer inducements to both the shipping and traveling public equal to those afforded by the best of the present popular routes; and we are sure that the shareholders will find in the increase and popularity of their property ample verification of the wisdom of the proposed improvement.—*Chicago Railway Review.*

We are glad to see the efforts, as stated above by the *Review*, for popularizing the Grand Trunk route. We can not have too many outlets from the great West to the Eastern markets; there is more business now than they can all do, with a continually increasing

surplus of products. It is, however, somewhat "up hill work" on the north side of the Lake, and will no doubt continue to be so until our brethren "across the border" shall be adopted into the family of "Uncle Samuel." "Reciprocity" would then become "conjugal," and mutually advantageous, as it would be "all in the family." Still, let us congratulate them, and wish them "God speed" in their enterprise.

Hartford and New Haven Railroad Company.

The earnings of this road for the years ending August 31, 1868 and 1869, were as follows:

	1868.	1869.
From passengers.....	\$891,091 20	\$978,830 50
" freight.....	632,454 06	774,786 80
" expresses.....	114,709 50	56,309 41
" mails.....	55,627 28	23,751 48
" rents, etc.....	3,452 35	8,191 01
	\$1,697,334 39	\$1,811,322 20

Expenses, viz:

Repairs of road and bridges.....	\$336,427 99	\$312,837 50
Wood, coal and oil.....	96,318 14	111,162 02
Material and labor on engines and cars, and new cars and engines.....	224,838 33	213,646 91
Transportation account and general expenses.....	325,867 95	347,886 94
Station repairs and improvements.....	48,009 83	55,227 82
Lost and damaged goods gratuities, etc., etc.....	3,472 79	7,677 36
	\$1,024,935 94	\$1,078,378 55
Net earnings.....	\$672,399 31	\$733,393 65
Interests and taxes.....	191,803 50	185,084 24
Balance.....	\$481,595 81	\$548,319 41

Compared with the previous year, the gross earnings of 1868-69 show an increase of \$114,347 81, with an increase in expenses of \$53,443 47—making the increase in net earnings, \$60,904 34. The balance remaining after the payment of interest and taxes is \$66,628 60 more than that of the preceding year. The gross receipts from passengers exceed those of the previous year by \$87,739 30. The receipts from transportation of freight exceed those of the previous year by \$112,332 74. The receipts from express companies are \$58,400 09 less than those of the previous year, for the reason that for the first seven months of that year the company was running a daily express freight train for the sole accommodation of the express companies, while for the year just past it has been furnishing to those companies only the facilities afforded by its regular passenger trains. The receipts for mail service are \$31,872 89 less than those reported from that source one year since, for the reason that the amount then reported included a sum of about \$35,000, received in that year, for services previously performed.

THE UNION PACIFIC TERMINUS.—A telegram dated the 23d inst. announces that the Union Pacific has surrendered the section of its roads between Ogden and Promontory, 52.2 miles, to the Central Pacific, and that General Superintendent Towne, of the latter road, was on his way to take possession. This is unexpected information, for the last report concerning the negotiations between the two roads indicated that no settlement could be made. It will be remembered that last winter an act of Congress provided that the Union Pacific might build the road between Ogden and Promontory, but that the Central Pacific should afterwards have the right to purchase it. When the Central came to purchase, it wanted the subsidy of Government bonds,

which, of course, was the sole reason of the Union Pacific for building a road which it was not to own. The Union Pacific urged that the law was not binding and that it could hold not only the bonds but the road.

Now the Union Pacific has 1,032 miles of road, and the Central Pacific 742 miles and the common terminus is at the junction of the Utah Central road So California and the East will be able to reach the Mormon settlements on equal terms. The new arrangement is likely to prove a great benefit to Ogden, while Promontory will doubtless die incontinently and the promising town of Corinne lose something of its importance, especially if the stage lines to the North remove their headquarters, which they will be likely to do, in order to have but one railroad to deal with in making contracts for shipping freights from the East.—*Western R. R. Gazette.*

EDGAR CONKLING, Esq., of CINCINNATI, O.—By a recent letter, we are informed by our old friend Conkling, that he now moves from the city of Cincinnati to the Straits of Mackinaw, and from this time onward will work for "My Michigan." By this movement, Mr. Conkling leaves Ohio, and the city of Cincinnati, after a residence of forty years in the State, and twenty-eight in the city. He proposes to change from a "Buckeye" to a "Wolverine." The Cincinnatians are a very homelike and social people—and the ties of friendship are stronger than in most western cities. In leaving the city, Mr. Conkling must feel as if he was leaving home.

He is a gentleman of great energy and perseverance, and will make his mark in the history of Northern Michigan, and we confidently believe that he will lay the foundation of an important Michigan city.

He commences work in earnest this winter, building a "dock," building a house, cutting cord-wood for steamboats, and working for Mackinaw City, and Northern Michigan generally. We wish him abundant success in his new home, and all his new enterprises.—*Kalamazoo Gazette.*

TUNNELING UNDER THE DETROIT RIVER.—There is to be a railroad tunnel under the Detroit river. An uninterrupted line of rails runs from New York to Chicago, with the one exception of the interval made by the river at Detroit. The transportation of freight by the ferry at this point causes great delay, and thus frequently blocks up the road so as to produce serious inconvenience. To obviate this, the Michigan Central and the Great Western Railroad of Canada have decided to tunnel the river. The project of a bridge was abandoned because a draw would have been necessary to allow the shipping to pass. Mr. Chesborough, the engineer of the Chicago tunnels, has examined the strata under the bed of the river, and reports that the formation is fit for the work. Although the river is only five-eighths of a mile wide, the whole length of the tunnel will be fully a mile and a quarter, in order to bring the roadway up to the grade. The depth varies from twelve to forty-two feet. Space for two railway tracks will be obtained by two distinct borings, eighteen feet in diameter, under the bed of the river, but they will be united in one when the banks are reached. The cost of the work is estimated at two and a half millions of dollars.—*Arctican.*

There has been an average of over 1,000 emigrants per day arrive at Castle Garden, New York, during the present year.

Railroad Items.

—A Southern railroad man writes to the *New York World* as follows: "Would it not be a good move for the railroads of the country to call a railroad congress, to meet at New York, for the purpose of placing the great railroad system on a firm, legitimate, paying basis? Would it not be a good idea to have Commodore Vanderbilt placed in charge of all railroads leading from New York to the West, and General William Mahone, of Virginia, placed in charge of all those leading to the South? This great network of railroads centering in New York is so much like the arteries and veins of a man's body centering in his heart, that it strikes me forcibly, to place this great system on a paying basis, freights and passengers should take the natural route to any given point. If it actually cost 50 cents per hundred pounds to carry freights from New York to Chicago, is it not legitimate and right the stockholders of the roads from New York to Chicago should have six per cent. for the capital invested in constructing the line? This dividend can never be realized so long as competing lines cut under rates that do not pay actual expenses. The same may be said of the Western lines competing with the South. Would it not be better for the public and the stockholders to have the two great natural thoroughfares of the West and South under the control of the best railroad ability the country possesses? Success has always been the best indication of solid sense, and we do not think the public nor the railroads would ever regret having placed these two distinguished railroad financiers at the head of the nation's great internal enterpriser."

—General Williams C. Wickham, President of the Chesapeake and Ohio Railroad, has perfected the contract for the completion of his road to the Ohio river. We are informed that Mr. A. A. Lowe has subscribed \$1,000,000, Mr. W. H. Aspinwall \$1,000,000, Messrs. Fisk & Hatch \$2,000,000, Mr. C. P. Huntington \$2,000,000, Messrs. Bliss, Winslow, Wainwright, and Stewart \$1,000,000 each. These gentlemen are all of New York, and some of them have been largely and successfully engaged in railroad enterprises. We learn that General Joseph R. Anderson, of this city, has also subscribed \$1,000,000. Ten per cent. of the money subscribed is to be paid on the 1st of January next, and the work is to be pushed forward with the utmost vigor to its completion.—*Richmond Enquirer*.

☞ The cereal product of Europe in 1868, it is calculated, amounted to 4,754,616,604 imperial bushels, or 16 bushels to each inhabitant, while that of the United States amounted to 1,305,449,653, or 36 bushels per inhabitant. Of the product of Europe, 1,484,437,500 bushels were grown in the Russian possessions in Europe, 654,411,100 in North and South Germany, 717,115,996 in France, 571,354,765 in Austria and Hungary, 280,887,930 in Great Britain and Ireland, 181,662,413 in Italy, 204,875,890 in Spain, 129,446,658 in Roumania, and 120,000,000 in European Turkey.

—The survey of the Louisiana and Mississippi Railroad will be commenced, from Fayette east to Mexico, as soon, says the *Howard County Advertiser*, as the company furnish to the county court sufficient evidence that responsible parties have bound themselves to finish the road and put the rolling stock upon it. And the same paper adds, "This great desideratum is about to be accomplished."

—Mayor Cole, of St. Louis, has vetoed the ordinance of the Common Council selling the city Pacific Railroad stock to January and Gibson for \$250,000 in bonds of the new railroad through St. Louis county. This transaction is distinct from that of the County Court which sold half a million of the country's—not the city's—stocks for \$250,000 in cash to Hudson E. Bridge, who leads a party in the Pacific directory opposed to January and Gibson.

—A total of forty-five thousand two hundred and fifty-five miles of railroad have been completed in the last forty years, and are now in operation in this country, besides fifteen thousand additional miles, which are now in progress of construction. In a short time this list will be swollen to fifty-thousand, which, taking \$44,000 as the average cost per mile, would make the capital invested in railroads, in this country alone, \$2,000,000,000.

—It is estimated that by the end of the year 1869 there will be laid in the United States, in round numbers, 110,000 tons of steel rails, equal to 1,100 miles of steel road; and of this amount about 36,000 tons, equal to 360 miles, will be laid during the present season. These rails are in use on more than fifty different roads, and are partly of American, principally of English, and to a small extent of Prussian manufacture.

—At the annual meeting, held at Baltimore, of the stockholders of the Baltimore & Ohio Railroad, the following gentlemen were re-elected Directors to serve the ensuing twelve months: John Hopkins, Sam'l W. Smith, Francis Burns, John Spear Nicholas, John Gregg, C. Oliver O'Donnell, James Harvey, Galloway Cheston, William W. Taylor, Sam'l Kirby, Allen A. Chapman, and Albert A. Shumacher.

—A letter from Cartersville to the *Rome (Ga.) Daily*, says: "The contract for the building of the Cartersville and Van Wert Railroad has been let to a Northern company. It is said the work of construction will commence at once. Rome will have to look out for her laurels; we are climbing up after her. At the surrender, the number of inhabitants at this place was about 700, now it is 2,000."

—Speaking of the Savannah, Griffin and North Alabama Railroad, the *Newnan Herald* says: "Track-laying is going ahead rapidly on this road, Major Corput having a gang of sixteen hands on this end of the road laying track, and one hundred convicts preparing the bed. The depot at Senola has been commenced, and by Christmas we will be running a train on the road."

—The total receipts of the Memphis & Charleston Railroad for the year ending June 30, 1869, is \$1,182,759 22; the total expenses were \$781,546 27, leaving as net earnings \$401,212 95. This compared with 1867-8 is an increase of gross earnings of \$7,845 09, a reduction of the expenses of \$481,561 59, making an increase of net earnings of \$56,406 68.

☞ The Public Debt, on Nov. 30th amounted to \$2,648,234,632 79—from which should be deducted the amount in the Treasury, viz: \$194,674,919 50; making the debt, less the actual resources on hand to pay it, \$2,453,559,795 23, being a reduction since March 1st, 1869, of \$71,903,521 78.

—The St. Louis and Southeastern Railway Company has executed a mortgage for \$2,250,000 to George Opdyke and Philo C. Calhoun, of New York. It is promised that work shall commence on this road at Shawneetown next spring.—*Western Railroad Gazette*.

—The stockholders of the Richmond and York River Railroad Company have resolved to extend the road twenty-one miles to the Chesapeake Bay, thus shortening by eleven hours the time between Richmond, Baltimore and Philadelphia.

—The Government of St. Domingo has granted important railroad concessions to Frederick Fisher and his associates, J. P. O'Sullivan representing them. Mr. O'Sullivan left by a Danish man-of-war for New York by the way of Havana.

—The route of the Port Royal and Augusta road has been surveyed from Port Royal to within ten miles of Augusta. Rails have been shipped from New York, and it is thought that the road will be completed by next May.

—The Nashville and Chattanooga Railroad is preparing to lay down a few miles of steel-capped rails for trial. If they prove a success, we understand that the Company has determined to replace the old with this species of new rail.

—The Union Freight Depot at Jackson, Mich., is 500 feet long and 30 feet wide, built of brick, with slate roof. It is to be used by the Michigan Central, the Jackson, Lansing & Saginaw, and Grand River Valley Railroads.

—The Directors of the Chicago & North-western Railroad have declared a dividend of five per cent. on the preferred and four per cent. on the common stock, less Government tax, payable December 30.

—The Fort Wayne, Jackson & Saginaw Railroad, now running from Jackson, south through Jonesville to Reading, Ind., is to be completed to Fort Wayne the coming season.

☞ The assessment of real and personal property for taxable purposes, in Philadelphia for 1870, is reported at \$471,600,265, being an increase over last year of \$17,489,742.

—The gross earnings of the South-western (Ga.) Railroad for the year ending July 31, 1869, were \$910,116 06; expenses \$549,729 89, leaving as net earnings \$360,386 17.

☞ Hon. J. F. Driggs, estimates the value of the products of the mines, quarries, forests fisheries and salines of Northern Michigan at \$400,000,000!

—There are 825 miles of railroad in operation in the State of Kansas, and any number of miles that can be imagined are in "contemplation" or "projected."

—The Kansas Pacific, 407 miles from Kansas City to Sheridan, is to be completed to Denver, 225 miles further, by midsummer of 1870.

—The *Toronto Globe* has no "doubt" that the funds will be furnished by the roads in interest to complete the tunnel under the Detroit river.

—The amount of bonds issued to the various Pacific Railroads, interest payable in currency, is \$62,625,320.

—J. L. Paddi has been elected Chief Engineer of the Lansing, St. John's and Mackinaw Railroad.

It is estimated that Kansas has now 400,000 inhabitants, and a few more "coming."

Iowa is said to have produced at last harvest eighty-five million bushels of grain.

In the whole world, the average mortality is 64 per minute.

The South Pacific Railroad is finished to Lebanon 185 miles from St. Louis.

A firm in Siegen, Germany, have contracted with some English iron masters to supply them with 500 wagon loads of iron ore per month to be shipped from Rotterdam.

Messrs Honeyman and Drummond have obtained permission to run steam omnibuses, as an experiment, in the streets of Glasgow.

A CARD.

A Clergyman, while residing in South America as a missionary, discovered a safe and simple remedy for the cure of Nervous Weakness, Early Decay, Diseases of the Urinary and Seminal Organs, and the whole train of disorders brought on by baneful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope, to any one who needs it, *Free of Charge*.

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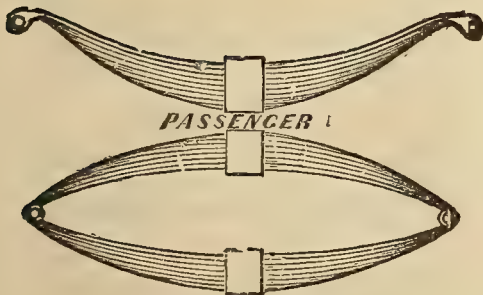
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New York); Akron, 4.21 P. M.; Ravenna,

5.05 P. M.; Meadville, 7.55 P. M. (Supper);

Susquehanna, 8.10 A. M. (Breakfast); Tur-

ner's, 2.07 P. M. (Dine); New York, 3.30 P.

M. Connects at Ravenna with Cleveland &

Pittsburg Railroad for Hudson and Cleve-

land; at Elmira for Williamsport and the

South; at Binghamton for Cooperstown,

Albany and the celebrated summer resort,

Sharon Springs, and at New York with

afternoon trains and steamers for Boston and

New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.00 A. M.; Urbana,

1.26 A. M.; Galion, 4.00 A. M.; Mansfield,

4.44 A. M.; West Salem, 5.56 A. M. (Bkfst);

Akron, 7.33 A. M.; Ravenna, 8.20 A. M.;

Meadville, 11.16 A. M. (Dine); Hornells-

ville, 6.19 P. M. (Supper); New York, 7.00

A. M. Connects at Mansfield with Pittsburg,

Ft. Wayne & Chicago Railway for Pittsburg,

Harrisburg, Philadelphia, &c.; at Meadville

with Franklin Branch for Oil City; at

Elmira with Northern Central Railway for

Harrisburg and the South, and at N. Y. with

morning trains for Boston and N. England

cities.

New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through 860 Miles without Change.

Boston and New England Passengers, with their Baggage, are transferred FREE OF CHARGE in New York.

The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street, New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

Baggage Check'd Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY,

Which can be obtained at the Company's Offices in Cincinnati, 80 West Fourth Street, 115 Vine St., 4 Burnet House, and at all principal Ticket Offices in the South and South-west.

W. B. SHATTUC,

General Southern Agent.

WM. R. BARR,

Gen'l Pass'r Ag't.

GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

-TO-

BALTIMORE,**PHILADELPHIA,****NEW YORK, and
BOSTON,**

WITH THE PRIVILEGE OF GOING TO

WASHINGTON**FREE!****NO CHANGE OF CARS**From Cincinnati or Columbus to **Baltimore** and but ONE CHANGE to **Philadelphia and New York.**Ask for TICKETS and BAGGAGE CHECKS via **Baltimore & Ohio R.R.**

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Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City.	7 00 A. M.	9 20 P. M.
Toledo & Detroit.	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.	7 00 A. M.	5 25 P. M.
Richmond & Chicago.	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City.	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.		6 45 A. M.
Richmond & Chicago.	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati.

For all information and through tickets, please apply at the office, south-east corner of Broadway and Front; Burnett House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.

Omnibuses call for passengers

JANUARY 5th, 1868.**Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

RAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymr Acc.
Leave CINCINNATI,	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR,	12 00 m.	2 00 a.m.	8 10 "
Leave "	12 20 p.m.	2 10 "	
Arrive VINCENTES,	5 15 "	6 35 "	
Leave "	5 20 "	6 40 "	
Arrive ODIN,	9 35 "	10 30 "	
Leave "	9 45 "	10 40 "	6 30 a.m.
Arrive SANDOVAL,	9 55 "	10 50 "	6 45 "
Arrive ST. LOUIS,	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O'H,	6 10 a.m.	11 30 p.m.	10 20 m.

For tickets, or information apply at Offices, 132 Vine Street, Corner Front and Broadway; and at Depot, Foot Mill Street.

C. E. FOLLETT, Gen. Passenger Agent
J. W. CONLOGUE, General Superintendent.**Best Route to St. Louis and Chicago****INDIANAPOLIS,
CINCINNATI**

-AND-

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

**ST. LOUIS,
CAIRO,****CHICAGO,**

Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West, North west and South-west.

ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail.	6 30 am	12 20 am
St. Louis and Springfield Express.	3 35 pm	8 20 am
St. Louis and Springfield Express.	10 35 pm	3 30 pm
Lawrenceburg Accommodation.	10 00 am	2 35 pm
Lawrenceburg Accommodation.	4 45 pm	8 05 am

*The 10.35 pm. train will leave Sundays, but not on Saturdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail.	7 00 am	10 00 am
Chicago Express.	6 10 pm	9 40 pm
Harrison Accommodation.	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnett House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.

A. E. CLARK, General Ticket Agent.

Philadelphia, Wilm'gton & Baltimore**RAILROAD!****FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**

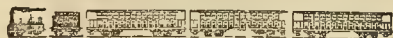
4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M. Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West, 7.35 A. M.; 9.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore and Washington at 4.15 A. M., and 11.00 P. M. Leave Baltimore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.

The Old And Reliable Route.**Through to Pittsburg without Change.**

The PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton, and Little Miami Railroads, still continue to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

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H. W. BROWN & CO.,

No. 27 West Third Street, Cincinnati.

W. P. SHINN, General Freight Agent,

Pittsburgh, Pa.

LOUISVILLE & CINCINNATI**SHORT-LINE RAILROAD.****Time only 5 hours****Fare Only \$3.50—Transfer from Hotel or Residence to Depot, in Covington, Free.****THE SHORTEST ALL-RAIL ROUTE TO** Louisville, Nashville, Memphis, New Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail.	7.00 A. M.	2.30 P. M.
Evening Express.	5.45 P. M.	9.40 P. M.
Walton Accommodation.	4.00 P. M.	9.30 A. M.

The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on the Walton Accommodation, offer great inducements to the citizens of Cincinnati and Covington who wish to purchase country residences or small farms for gardening. This train leaves late in the afternoon, and arrives early next morning, giving all day to attend to business. For further information as to routes, low fare, &c., please apply at No. 1 Burnet House, or Depot, Covington, Ky.

SAM'L GILL, Gen'l Sup't. Louisville.

CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Liberty st., connects at Hampton Junction with the Delaware, Lackawanna, and Western Railroad, and at Easton with the Lehigh Valley Railroad, and its connections, forming a direct line to Pittsburg and the West, without change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago, Cincinnati, St. Louis, etc., with but one change of cars. Silver Palace cars through from New York to Chicago.

FAIR ARRANGEMENT.

Commencing August 30, 1869. Leave New York as follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk, Williamsport, Wilkesbarre, Mahoney City, Tuckhannock, &c.

7:15 a. m.—For Somerville.

8:30 a. m.—For Flemington, Junction, Stroudsburg, Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.

12 m.—For Flemington, Easton, Allentown, Mauch Chunk, Wilkesbarre, Reading, Columbia, Lancaster, Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.

3:30 p. m.—For Easton, Allentown, Mauch Chunk and Belvidere.

4:30 p. m.—For Somerville.

5:25 p. m.—For Somerville and Flemington.

6 p. m.—For Easton and intermediate stations.

7 p. m.—For Somerville.

7:20 p. m.—EMIGRANT—Stopping only at the principal stations.

9:00 p. m.—For Plainfield.

11:50 p. m.—For Plainfield, on Wednesdays and Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,) for Easton, Allentown, Harrisburg, and the West without change of cars to Cincinnati or Chicago, and but one change to St. Louis. Connects at Harrisburg for Erie and the Oil Regions. Connects at Junction for Stroudsburg, Water Gap, Scranton, &c. Connects at Phillipsburg for Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Saturdays,) for Easton, Bethlehem, Allentown, Reading, Harrisburg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars to Pittsburg and Chicago. Connects at Junction with Delaware, Lackawanna and Western Railroad for all stations to Scranton. This train will be run to Easton on Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton, Allentown, Reading, Harrisburg, Pittsburg, and the West—connects at Harrisburg with train for Williamsport, Erie, &c.

Sleeping cars through from Jersey City to Pittsburgh every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15, 8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:10, 2:00, 3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25, 7:10, 7:25, 7:40, 8:10, 9:00, 9:40, 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the Central Railroad of New Jersey, foot of Liberty st., N. Y.; at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at No. 10 Greenwich st., and at the principal hotels.

R. E. RICKER, Superintendent.

H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, } Editors
T. WRIGHTSON, }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, DECEMBER 16, 1869.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
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WRIGHTSON & CO., Prop'r's.

The Southern Railroad.

There is a curious state of things in regard to the "Southern Road." Cincinnati proposes, if she be allowed the right of way, to make a Trunk Line of Road, from Cincinnati, (the largest city on the Ohio), to the Southern line of Tennessee. This road will go nearly through the heart of Kentucky and Tennessee. The cost of the road will be at least ten millions of dollars, and probably more. The immediate, direct benefit will accrue to at least two-thirds of each of those States. Now, one would not think it possible that either could *refuse* the right of way. It looks contrary to all the ordinary workings of human nature; but so it is, there seems to be a strong and even violent opposition to this road in both States. On what ground is that opposition placed? Undoubtedly, the real ground is local jealousy, although other reasons are given. But why should there be even local jealousy? Is there any town, or place, which can be possibly injured by such a road? We think it perfectly demonstrable, that no place *can* be injured by a great road. But suppose that some places may be *relatively* more benefited. If that injures no other, who will stand up and say that some places ought never to be benefited because some others are not as much benefited? Ought Knoxville to complain because Chattanooga has a railroad? (Leaving Cincinnati out of the question, because out of those States), ought Covington, Newport, Lexington, Paris, Danville, and a great number of interior towns to be deprived of railroad facilities, because Louisville feels jealous? We suppose, that no sensible or liberal minded man in the world would, in a Legislature of a State, acting for the whole people be governed by such motives; but we will endeavor to show, that really no local ad-

vantage of any sort is to be gained by refusing the right of way. In the first place, the refusal does not prevent the making the Southern Road, but it may delay it a little while. Is that delay worth while, when the only result produced, will be the exhibition of a short-sighted jealousy? Cincinnati has undertaken this enterprise in this way, for the well-known reason, that she can not subscribe directly to a railroad company; and probably not so much money can be raised in any other way; but there are two ways in which the result may be arrived at, by a delay of two or three years: If it be found absolutely necessary for Cincinnati to construct this road, the Constitution of Ohio may be amended, and probably will be. Again, the Kentucky Central being already in operation 100 miles, it is probable, almost certain, that capitalists will take hold of it and carry it on through Kentucky. There are at least half a dozen charters, and liberal charters, by which a railroad can be constructed from Covington to Tennessee. The time has come when these charters are valuable, and when capitalists will find it profitable to make that trunk line. To refuse the right of way in Kentucky is *not* therefore to prevent the road, by any means; but it assuredly will delay it, and that would be quite lamentable when there is such a good opportunity to make it at once. But, we think, that even Louisville will get great advantages by this road; and we really do not understand the policy, which undertakes to prevent a navigable river from running through a State, because you don't happen to live on its banks. A great railroad is a navigable river, and its locomotives are the steamboats. Suppose this great iron river flows through Central Kentucky, will it not be accessible from each side; and Louisville, will she not tap it directly by her Lebanon Branch of the Nashville road? Now, if there be any products, trade, or wants in the region of East Kentucky, or East Tennessee, which is drawn to a market by the Southern Road, will not all, that could go to Louisville still be drawn there? Is not grain carried to her market, as well as to that of Cincinnati? We have a practical example of the folly of this local jealousy, in the city of Philadelphia: Pennsylvania charters and allows a railroad from Harrisburg, through Allentown and Easton to New York, being a cut-off from Philadelphia. Is Philadelphia any worse off for that? Don't every bit of her immense interior trade, go to Philadelphia, just as much as if there were no road to New York? Most assuredly it does. It is an immense advantage to cities to have railroads to the interior to facilitate the transit of products, or Cincinnati, or Louisville would not make them. But when there are railroad communications to different markets, the question whether they will go to either market will depend on the attractions of capital, and facilities for business. Therefore, we do not see the force of objecting to the Southern Road

in Kentucky, on account of local jealousy.

Now, let us see how much of Kentucky will be directly and immediately benefited by this trunk line. We may take the whole Eastern and South-eastern part of the State; for they have no outlets, except by the Ohio River, and the Kentucky Central, and this trunk line. There is no railroad made, or any outlet to the West, so we may take the whole Central part of the State to a line at least twenty miles West of the trunk line; for to that distance on either side, there can be no other outlet so good, and no competition. Let us see how far this will take us; Taking Cincinnati as one point, and Chattanooga as the other, this line ought (if there be no engineering difficulties), to go pretty direct between these points. If we go in that direction, and then take twenty miles to the West of it, we shall come to Adair and Cumberland counties, and on to the Cumberland River. If then, we suppose branches through Richmond on one side, and Greensburg on the other, we shall find by this map, that full two-thirds of Kentucky are *directly and immediately interested* in the Southern Road; and why should the other third be opposed to it? As we have remarked, the Lebanon branch will make with the Southern Road, a direct line from Louisville to East Tennessee. If, therefore, Louisville shall oppose the Southern Road, it will be from a very mistaken view of her own interest. Such opposition is, perhaps, natural, but it will be much mistaken.

We have shown in a former article, that Kentucky has a *less proportion* of railroads than any State, and as a consequence, has fallen largely behind Ohio and Illinois. How is she ever to advance, if she is to allow petty jealousies to interfere with the construction of railroads, by foreign capital? We trust, that for the honor of the Ohio Valley, Kentucky will not attempt to arrest the march of improvement within her borders; it will not stop the improvement of other States, but will prevent her own growth, keep away all capital and labor from other States and other countries, and make it impossible for Kentucky—a State full of natural resources, ever to overtake her sister States, or acquire the position to which she is naturally entitled, The Southern Road will be built at some time, but perhaps not till long delay has cramped all the rising energies of Kentucky and prevented the development of her vast mineral region and her fine water power and her rich lands.

It seems to be the opinion of scientific men, and demonstrated by experience that railroads in addition to the many other benefits they confer, are "preventives" to droughts. It is claimed that the electric currents induced by the laying down of the iron pathway has resulted in producing frequent and abundant rain falls on the plains where rain was almost unknown before.

Cincinnati Southern Railway.

"But we still have the Bible among us; and, consulting that, we find that 'the thrifty man looketh after his own plowshare.' A direct road to Chattanooga is just now the plowshare of Louisville, and our friends who live opposite Covington and Newport can bet their bottom dollar that we are going to put it through."

The above from the *Courier Journal* would indicate that sometime or other, either during its Pilgrimage, or in the moments of its contrition, it had been induced to look for comfort and instruction in the proper direction. We heartily rejoice at this, for in it there is a glimmer of hope.

The spirit displayed, however, by our brother of the quill, will scarcely convince a superficial observer that it has made any very great progress heavenward, or that it is in any danger of canonical honors.

Seriously, as straw show the way the winds blow, the above is a correct index of the designs and purposes of the "first city of the State" that is owned by the L. & N. R. R. The only question that remains is, do they also own the State of Kentucky?

It is said that the Memphis & Charleston Railroad proposes to build a bridge across the Tennessee river at Chattanooga, instead of crossing at Bridgeport; and if the Cincinnati Southern Railway should come down the Sequatchie Valley, the M. & C. road would extend their road from Stevenson and intersect the C. S. Railway at or near Jasper. This, it is claimed, would make almost a direct line from North Alabama to Cincinnati, and save 40 or 50 miles between that place and Huntsville.

Chesapeake and Ohio Railroad.

The second annual meeting of the stockholders of this company was held in Richmond on the 25th ult. From the report of the President it appears that the gross earnings of the road for the fiscal year ending September 30, 1869, were \$62,674 55, and the expenses, \$477,581 63, making the net earnings, \$185,092 92. The increase of receipts over the previous year, was \$63,320 49, and the increase of expenditures, \$10,933 14, making the increase of net earnings, \$22,387 35. From the expenditures are to be deducted the amounts paid for relaying with new iron a portion of the road and the increased amount of wood on hand.

The indebtedness of the company is increased by the sum of \$953,136 63, and now stands at \$3,087,847 30. The whole of this increase is chargeable to the construction and equipment of the road west of Covington.

It is supposed that the receipts for the year ending September 30th, 1870, will reach \$700,000, and that these receipts will provide means to pay the running expenses of the road, the interest on the whole of the present indebtedness of the company, and leave a balance sufficient to pay for such new iron as may be necessary for repairs.

The capital stock of the company is \$3,383,809.47, viz:

Amount paid by Board of Public Works	\$2,013,987 52
Amount paid by subscribers other than State	1,339,983 87
Paid by subscribers to 8 per cent. preferred stock	29,838 08

Total.....\$3,383,809 47

The general condition of the roadway is good, and the rolling stock and motive power of the company is in first rate condition.

At the instance of Col. John B. Baldwin, a select committee of 13 was appointed to consider so much of the President's report as related to the arrangements made with New York capitalists for the prosecution and completion of the road to the Ohio River, who subsequently reported the following resolutions, which were adopted by a vote of 51,000, against 5,000 shares:

"1. *Resolved*, That the stockholders of the Chesapeake and Ohio Railroad Company, assembled in general meeting, do approve of the action of the President and Directors of the company in negotiating, accepting and ratifying the proposition and agreement of Messrs C. P. Huntington and others, dated New York, Nov. 16th, 1869, and do hereby authorize and empower the President and Directors to do whatever may be necessary to carry the same into full effect.

"2. That the stockholders will proceed to elect eleven Directors, who shall have authority to choose from their own number a President and a Vice President of the company.

"3. That the Directors so organized shall have full power and authority to organize the company in all its departments, to provide for the selection and employment of all officers and agents of the company, to prescribe their duties and define their authority, to ascertain and fix their compensation, and generally to make for the government of the company such rules as they may deem necessary, so that the same be not inconsistent with the charter of the company or the law of the land, and that they be at all times subject to the authority of the stockholders in general meeting."

On motion of Col. Baldwin the following persons were elected Directors for the ensuing year: C. P. Huntington, A. A. Lowe, Wm. H. Aspinwall, Pliny Fisk, David Stewart, Jonas G. Clark, William B. Hatch, H. Chester Parsons, John Echols, Williams C. Wickham and Joseph R. Anderson. All but the three last named are citizens of New York, and the appointments were made in accordance with the contract just ratified. It is stated that Mr. Huntington will be President, to reside in New York, and General Wickham, the present President, will be Vice President, to reside on the line of the road.

The amount of money already expended in the construction of the road is \$10,000,000. The contract entered into is to complete and equip the road to the Ohio River at the mouth of the Big Sandy at a cost of \$15,000,000—\$10,000,000 for construction and \$5,000,000 for equipment; distance to be built, 200 miles. —*American Railroad Journal*.

The New York *Albion* is one of the best family papers that is laid on our table.

The Chinese Government has ratified the treaty made between that Empire and the United States, made by the Burlingame Embassy.

The Louisville and Nashville Railroad.

The following extract from the report of Albert Fink, E-q., General Superintendent of the Louisville & Nashville Railroad, is interesting, showing as it does the prospective extension of this great North and South line of railway:

In my annual report for the year 1866, I referred to various connections and extensions that would, as soon as completed, add greatly to the prosperity of the road and the city, and which at no distant day might become absolutely necessary in order to establish the Louisville and Nashville Railroad upon a firm and enduring basis. It is satisfactory to be able to record, after the lapse of only three years, that the works then mentioned have not only all been commenced, but that some have already been completed.

The Louisville and Cincinnati Railroad, begun in 1867, was opened for business in June last. However, we can not expect to reap the full benefit from this important improvement until the connection with the Louisville and Nashville Railroad at Louisville has been established, as originally contemplated when the Louisville and Nashville Railroad Company agreed to aid in the construction of the Cincinnati road.

The bridge over the Ohio River commenced in the summer of 1867, will be finished by about the first of December. Perhaps no other improvement will exercise so great and beneficial an influence upon the prosperity of the Louisville and Nashville Railroad as this one. At present the amount of through freight business which this company and its southern connecting lines could transact is measured by the capacity of the Transfer Company to haul by wagons from Jeffersonville to our depot. On account of the delays caused by this transfer, and the limited quantity of freight that can be handled, our through business has been greatly checked. With the completion of the Ohio River bridge all these difficulties will be overcome, and we will be enabled to establish the quickest and most satisfactory through line between the Southwest and the Northwest for both passengers and freight.

The extension of the Mississippi Central Railroad to Humboldt has been virtually accomplished by means of a contract made by that road with the Mobile and Ohio Railroad, according to the terms of which the trains of the Mississippi Central Railroad are permitted to run as far as Humboldt, where they now make direct connection with our trains. The great obstacle in the way of transacting a satisfactory through passenger and freight business with the Mississippi Central Railroad is thus removed, and the beneficial effects of this arrangement are already apparent.

The Montgomery and Decatur Railroad (North and South Alabama Road) is now under contract, and from the character of the gentlemen who have undertaken the construction of the road, its completion in the shortest practicable time may be confidently expected. This road will give us a valuable connection, via Nashville and Decatur, with a section of country the centers of which are Selma, Montgomery, and Pensacola, now accessible only by circuitous routes.

The extension of the Lebanon Branch in the direction of Knoxville has not progressed during the year as rapidly as is desirable, owing in a great measure to the fact that the prospects of forming a connection with the Knoxville and Kentucky Railroad at State Line have not been of a nature to justify a

more energetic prosecution of the work on our part. The road is now operated as far as Mount Vernon, 129 miles distant from Louisville, and by January 1, 1870, the track will have reached Rockcastle River, 140 miles from Louisville, beyond which point all work has been suspended for the present. With a view of urging the early completion of this road, which has become a matter of vital importance to this company, the following considerations are submitted.

The large capital already invested in the Lebanon Branch can not be expected to yield proper returns as long as that Branch is operated as a local road, which must necessarily continue to be the case until a connection is made with the roads in East Tennessee, whereby through business would be secured. The estimated cost of completing the road to State Line is \$1,800,000; and in case the Knoxville and Kentucky Railroad Company should be unable to finish their portion of the line, the entire additional capital required to finish the road to Knoxville would be about \$3,000,000. There can be no doubt that the increased revenue derived from the through business over the 140 miles of finished road, which we could command when the road is completed to Knoxville, would pay the interest on the additional capital required, while before long the whole investment must become profitable. The completion of the road would place us in condition to demand of our connecting lines south of Nashville, which now discriminate against the Louisville and Nashville Railroad, such terms as would enable us to compete with other lines for the great business carried on between the Southeast and Northwest. On the other hand, if we fail to complete the road, it may be with certainty assumed that a large portion of this business which now passes over the Main Stem, yielding a revenue of about \$300,000 per annum, will be entirely lost to us in the course of a few years.

The business between the Northwest and Southeast is constantly on the increase, and as we now occupy the vantage ground in the way of forming the shortest connection between these two great sections—a connection which has almost become a public necessity—we have it in our power to secure and control the largest share of it before any rival interests could seriously interfere. In fact, the speedy establishment of this thoroughfare would make the construction of a rival road exceedingly improbable.

The city of Cincinnati is willing to expend \$10,000,000 for the purpose of securing a connection with the railroad system of East Tennessee, which Louisville can obtain at one-fourth the cost, and in almost less time than it would take Cincinnati to properly locate a route.

With the completion of the Knoxville Branch to Knoxville, the main railroad system centering in Louisville may be considered as completed, and it will only be necessary to construct branches to feed the main lines. The location of the Louisville and Nashville Railroad with its branches is one of great strength and is peculiar to itself. By means of it the best connecting links between the different sections of country are formed in all directions. The Main Stem occupies almost the direct line between Pensacola and Chicago, furnishing for all the country directly south of Louisville an excellent route to the North, Northwest, and the Northeast. The Memphis Branch forms part of the quickest through line between Memphis, Mobile, New Orleans, and the North Atlantic States,

connecting us also with the railroad system of Arkansas and Texas. The Knoxville Branch will give the shortest line of communication between all the South Atlantic States and the Northwest, connecting Norfolk, Wilmington, Charleston, and Savannah with Chicago and St. Louis, and through their roads with the Pacific.

With all these great advantages of location, the Louisville and Nashville Railroad will always be in a position to command a fair share of business, no matter what rival lines may spring up in the future; and as the population and commerce of the country are rapidly increasing, it is safe to conclude that after the completion of the works above mentioned, with proper management, the prosperity of the company can be secured for all time to come.

Chesapeake and Ohio Railroad.

The New York *Tribune*, in speaking of this road says:

At a meeting of the Directors held in this city for organization Dec 1, C. P. Huntington was chosen President, and Wm. C. Wickham Vice President. The fact that the above named prominent New York capitalists and business men, have, after a deliberate and careful examination of its merits interested themselves in this enterprise and assumed its management, is a sufficient guaranty, not only of its intrinsic value and importance, but of a vigorous, honorable, and successful administration and a prosperous result. This line, which reaches unfailing navigation at Richmond, Norfolk, West Point, and Washington, was carried in a western direction across the Blue Ridge, and at the opening of the war was completed to Covington, 205 miles from the seaboard. A corps of workmen are to be placed on the line immediately, and it is anticipated that the road will be completed and in operation to the confluence of the Big Sandy and Ohio rivers within two years. At this latter point roads are already building to connect it with Cincinnati via Maysville, with Louisville via Lexington, with Chicago via Toledo and Xenia, and with Columbus via Portsmouth. Through these channels it will meet the whole Mississippi Valley system and the Pacific Railroads. The distance by this route is no greater, and can be made in better time, than by the Pennsylvania and Baltimore and Ohio roads, while from the central tier of cities the distance is fifty miles shorter and the gradients thirty per cent lighter. The great feature of the road will be found, however, in its touching nearly twelve thousand miles of steamboat navigation at its terminus on the Ohio River. Below the Kanawha and Big Sandy territories the Ohio is navigable all the year, and boats can receive and discharge cargoes bound to and from the most distant cities of the Mississippi Valley. The length of the road is less than four hundred miles, and it will be the outlet for a large amount of the products of the South and West, that now take a circuitous route to the seaboard.

—The East Tennessee and Virginia Railroad, at their annual meeting held at Knoxville, on the 26th of November, passed resolutions in favor of consolidation with the East Tennessee & Georgia Railroad. The earnings of the company for the year are stated at \$537,734.34, the expenses for the same period were \$342,481.68, leaving as net earnings \$195,252.66.

Southern Pacific Railroad.

MINERAL WEALTH OF NORTHERN MEXICO.

An El Paso correspondent, in whose intelligence and truthfulness the editors have full confidence, informs the New Orleans *Bulletin* that "gold and silver are almost as common in Sonora and Chihuahua as iron and lead are in Missouri." Such is the abundance of silver that it is adapted to the uses of ordinary life, the commonest of people eating off massive silver plates. As far back as 1829, H. G. Ward, an Englishman, formerly Charge d'Affaires of Mexico, published a book on Mexico, in which he speaks of the amazing richness of the mines in its northern region. The following is an extract:

"The metallic lodes, visible by their elevated crests, are almost innumerable, and by far the greater number of them have been examined. The principal mines are El Carmen, San Antonio, Pastrana, Arbitores, Dolores, Candelaria and Bueno Suceso, with many others which it is not necessary to enumerate. The Carmen is the mine which produced the enormous wealth of the Marquis of Bustamante, and from which a mass of solid silver was extracted, weighing seventeen arrobas, or 425 pounds. The ores of Pastrana were so rich that the lode was worked by bars, with a point at one end and a chisel at the other, for cutting out the silver. The owner of Pastrana used to bring the ores from the mine with flags flying, and the mules adorned with cloths of various colors. The same man received a reproof from the Bishop of Durango, when he visited Batopolis, for placing bars of silver for the Bishop to walk upon."

Of another mine, he says: "It was discovered in the spring of 1826, by two brothers (Indian), by name Aranco, to one of whom a little maize, for tortillas, had been refused upon credit the night before. In two months they extracted from their mine \$270,000; yet, in December, 1826, were still living in a wretched hovel, close to the source of their wealth, bare-headed and bare-legged, with upwards of £40,000 sterling, in silver, locked up in their hut. I possess two specimens of the ore. They are almost pure silver, and there is, consequently, no difficulty in reducing them by fire, however rude or defective the process. The railroad facilities necessary to the development of this vast mineral wealth must pass through Texas."

STEEL MAKING IN PITTSBURG.—The manufacturers of Pittsburg claim the credit of supplying 65 per cent. of all the various grades of steel turned out in the United States. The first essays at its production date forty years back, but according to the *Pittsburg Commercial* it is within the last eight years that the most remarkable progress has been made, which has placed the steel produced there on an equality with the best imported. According to the census of 1860, the six establishments employed in this manufacture, which then existed in Pittsburg, represented capital amounting to \$1,080,000, and their annual products were valued at \$888,000, a sum less than the annual sales of a single establishment at the present time. These steel works are now eight in number, and represent an invested capital of \$4,500,000, and their annual products amount to nearly as much. According to the Assessor's books the sales for the past year have reached the value of \$3,956,845, and these being affected during a period of depression show the magnitude of the trade.—*N. Y. Times*.

Railroad Items.

—The business of the Illinois Central Railroad Company for November, 1869, was as follows:

LAND DEPARTMENT.

Acres Construction		
Lands sold	3,335.72 for	\$30,910 50
Acres Interest Fund		
Lands sold.....	40.00 for	459 30
Acres Free Lands		
sold.....	797 83 for	11,713 30

Total sales during the month of		
Nov. 1869.....	4,173 60 for	\$43,083 69
To which add Town Lot sales.....		245 00

Total of all.....4,173.60 for \$43,328 69

Cash collected in		
November.....		\$226,661 48

TRAFFIC DEPARTMENT.

Total receipts in month of Novem-		
ber, 1869.....		\$683,924 98
Total receipts in month of Novem-		
ber, 1868.....		583,788 39

Increase.....		\$100,136 59
Estimated earnings in the month of October, on the D. & S. C. R.		
R., not included above.....		\$141,130 80
Corresponding month of 1868.....		93,175 19

—The Baltimore and Ohio Railroad Company appears to have been overreached again, says the *Washington Star*, by the Pennsylvania Railroad, which on Wednesday secured possession of the Cincinnati and Zanesville Railway. This line, which is in many respects a most important and valuable one, has from its opening been a large contributor to the traffic of the Baltimore and Ohio route, and its ultimate and permanent control has long been looked upon as a highly desirable acquisition by the friends of both the great rival corporations. In buying it the Pennsylvania Central secures not only a line which can be made profitable from its local business alone, but by constructing a few miles of new road, connecting Zanesville with Dresden, Ohio, it will be able to tap Cincinnati and all the rich country beyond that city by a much shorter route than it has been able to secure. Indeed, it may be said that this last move gives to the Pennsylvania Central control of the most of the main arteries of trade in and through the great State of Ohio.—*Baltimore American*.

—According to the monthly estimate of the work to be done on the Pittsburgh and Connellsville Railroad between Cumberland and Connellsville, the work of construction is being pushed forward with all possible speed. The *Cumberland Civilian* says that the difficulty arising from the scarcity of labor has been in a great measure overcome by the importation of negroes from Kentucky and laborers from Canada by two of the heaviest contractors on the line. The President states that within a year from this date the road will be completed and stocked, and trains running through from Pittsburgh to Cumberland. The *Civilian* is informed that plans have been completed for a most advantageous Western connection. Cumberland will reap many advantages from the connections to be formed by this road, and all shall rejoice over its completion.

—The consolidated Cleveland, Zanesville and Cincinnati, and Pittsburgh, Mount Vernon and Columbus Railroad Companies will be known as the Cleveland, Mount Vernon and Delaware Railroad after December 1st, with General Jones, of Mount Vernon, Superintendent. The principal offices will be in Akron, Ohio. The Pennsylvania Central and Pittsburgh, Fort Wayne and Chicago Railway Companies delivered the Pittsburgh, Mount Vernon and Columbus road a deed of the Cleveland, Zanesville and Cincinnati Railroad, from Hudson to Millersburg, Ohio, as one million five hundred thousand dollars of stock in the new company, in consideration of one hundred and sixty-five thousand dollars in stock subscribed by Knox, Holmes, and Wayne counties, for the completion of the road from Millersburg to Mount Vernon and Columbus.

—The *San Francisco Bulletin* says: "The Honduras Railroad has already been commenced, with a good prospect that it will be completed at an early day. The distance will be about two hundred and forty miles; but the water route between this city and New York will be shortened about twelve hundred miles. were this road completed, freight could be transported between the two cities with about the same dispatch as it is now done by way of the Pacific Railroad. The Honduras road will compete successfully with the Panama road. The former will have excellent harbors at the termini, and the line passes through a comparatively healthy country. A London house has hold of the enterprise, and iron, in part, has already been laid down for the construction of the road."

—There remains but 35 miles to finish to complete the Danville, Urbana, Bloomington and Pekin Railroad; 85 miles being already in running order. The road is said to be constructed in the very best manner, and to be fully equipped with superior rolling stock.

—The Directors of the Baltimore & Ohio Railroad on December 9th, re-elected Hon. J. W. Garrett, President of that road for the ensuing year.

—The Iron Mountain Railroad have dug a canal changing the channel of Swashin Creek at a cost of \$10,000 to avoid the necessity of keeping up two bridges.

—The Selma, Marion & Memphis Railroad, have contracted with A. K. Shepard to grade and iron their road to Eutaw, the work to be completed within twelve months.

—The Managers of the Pacific Railway have determined to do all that can be done in the way of snow sheds and snow fences to keep their road open this winter.

—The Central Pacific Railroad earned during the month of November \$532,000—gold.

It is proposed to wash the streets of New York city daily with sea water. For this purpose it is proposed to divide the city into two districts; each district to have a separate water works with powerful engines, capable of distributing 9,000 gallons per minute. For the purpose of obtaining the necessary elevation it is to be pumped into a tower 150 feet high, and four feet in diameter, from which it is to be distributed through cast iron pipes, to the parts of the city where required, in the same manner as other water works. The total first cost is estimated at \$3,730,939. The annual expense of maintaining this system of cleansing the streets is estimated at \$130,000.

Safety on Railways.

The New York Society of Practical Engineering held its regular monthly meeting on Wednesday evening, Nov. 10th, the President, James A. Whitney, being chairman. The subject before the association was "Safety on Railways," being a continuance of the investigation from the previous meeting. Mr. C. Williams, C. E., read his concluding paper on the subject, in which he elaborately reviewed the various causes of accident and loss of life in railway travel, and pointed out the defective construction of the roadways and rolling stock of American railways, which leads to such frequent disasters. He referred at length to the construction, form and material of rails as a subject of first importance, and which lies at the foundation of the subject of safety on railways. He adopted the theory that a compound steel and soft iron rail was least liable to fracture, as it was next to impossible for the two metals to break at the same place and time, while the wearing surface of steel would make them last as long as if they were wholly of steel, and by uniting the two metals, the cost would be considerably reduced from that of steel rails. This principle of compounding the two metals could be extended to the rolling stock with great advantage. The wheels could easily be made with steel wearing surface for durability, united with soft iron tyres, the same as locomotive driving wheels, and even the axles of all the cars could be hollow wrought iron with a steel core, that would secure strength and freedom from danger of breakage. The writer next alluded to draw-bridges and open switches. The former had almost ceased to be a cause of accident in most of the States, owing to the wholesome legislation compelling trains to come to a dead halt before crossing; but the latter were still a prolific source of casualties. He recommended such legislative enactments as would compel every train to slacken speed to four or five miles an hour in passing switches and stations.

Steam brakes, under the control of the engineer, he deemed the only reliable system of braking cars, and enumerated many serious accidents that have resulted from the tardiness of brakemen answering the whistle of the engineer.

Perhaps no single improvement, of such palpable necessity, is so perfectly feasible and practicable as iron cars, which, for safety in cases of smash-ups, are admitted to be superior to wood. The writer thought that paper material, such as used in the construction of paper boats, would be far preferable to the present wooden ones, as that material was almost impervious to fire, and entirely free from the danger of splintering in case of collisions. But iron cars were as feasible as iron houses and iron ships; and he argued that, if railway corporations could not be induced by public opinion to use material that would secure immunity from fire and splinters, the General Government should enact laws to compel the adoption of such improvements. That the Government has such a right, as much as to compel steamboats to carry life-preservers, there is no doubt.

As a means of preventing the cars leaving the track, he recommended the adoption of a central or guide rail, with friction rollers connected with the car to press against either side of said central rail, that would prevent a lateral motion to the cars and prevent them from leaving the track in case of the breakage of wheel or rail.

At this point the lecturer introduced, with

drawings on the black-board, what he called his radical improvement for preventing the demolition of cars in cases of collision. It consists in a system of buffers on an extended scale, making the platforms of the cars auxiliary buffers, so that when a sudden shock occurs, as in collisions, the platforms will be driven under the beds of the cars against pneumatic or hydraulic cushions that will gradually check the momentum, and prevent both the crushing and telescoping of the cars. He illustrated the possibility of bringing the train to a sudden check without the slightest injury, by reference to the manner in which ponderous ferryboats are brought into slips at the rate of two or three miles an hour, and brought to a stop in six or eight feet by coming in contact with the yielding piles driven into the ground on either side of the slip. He believed by thus supplying a train with buffer platforms, it could be checked without injury (except to the engine in case of collision,) in one hundred feet if going thirty miles an hour.

A discussion followed, after which the association adjourned till the second Wednesday evening in December.—*American Railway Times.*

Immigration Statistics.

Statement of passengers arrived in the United States during the year ended June 30, 1869:

Whole number arrived in the United States.....389,651
Of which there was—Males..240,477
Females..149,174
Cabin passengers.....53,342
Steerage passengers.....336,309

PASSENGERS NOT IMMIGRANTS.

Citizens of the United States. 26,776
Foreigners not intending to remain in the U. S..... 10,306— 37,08

IMMIGRANTS.

Under fifteen years of age. 79,803
Fifteen and under 40 years of age.....232,198
40 years of age and upward. 40,568— 352,569
Of immigrants there were—
Males.....214,748
Females.....137,821

And they arrived at the following ports, viz:

New York, N. Y.....253,754
Huron, Michigan.....35,586
Boston, Mass.....23,294
San Francisco, Cal.....13,490
Baltimore, Md.....11,202
Portland, Me.....4,026
New Orleans, La.....3,424
Detroit, Mich.....3,396
Philadelphia, Pa.....1,061
Oregon, Oregon.....978
Texas.....709
Key West, Fla.....476
Charleston, S. C.....331
Cuyahoga, Ohio.....215
Chicago, Illinois.....206
Gloucester, Mass.....170
Marblehead, Mass.....76
New Bedford, Mass.....76
Puget Sound, W. T.....23
St. Augustine, Fla.....23
Providence, R. I.....13
New Haven, Conn.....6
Portsmouth, N. H.....6
Savannah, Ga.....4
Newport, R. I.....2
Bristol and Warren, R. I.....1

Total immigrants.....352,569

NATIONALITIES OF THE IMMIGRANTS.

Germans.....132,537
English and Scotch.....60,286
Irish.....64,938
Swedes.....24,224
Canadians.....20,918
Norwegians.....16,068
Chinese.....12,874
French.....3,879
Swiss.....3,650
Danes.....3,649
West Indians.....2,234
Belgians.....1,922
Italians.....1,488
Hollanders.....1,134
Spaniards.....1,123
Azore Islanders.....420
Russians.....343
Mexicans.....320
Ponderers.....184
South Americans.....90
Portuguese.....87
Africans.....72
Japanese.....63
Turks.....18
Greeks.....8
All other countries.....25
Not stated.....15

Total immigrants.....352,569

OCCUPATION OF THE IMMIGRANTS.

Laborers.....88,649
Farmers.....28,036
Mechanics.....16,553
Servants.....10,265
Merchants.....8,809
Miners.....6,005
Clerks.....1,643
Masons.....1,388
Mariners.....1,219
Tailors.....1,124
Shoemakers.....1,106
Bakers.....870
Weavers.....771
Butchers.....645
Physicians.....397
Artists.....375
Painters.....369
Clergymen.....298
Engineers.....285
Seamstresses.....282
Brewers.....247
Fishermen.....211
Teachers.....181
Jewelers.....171
All other occupations.....1,436
Occupation not stated.....725
*Without occupation.....180,449

Total immigrants.....352,569

*Mostly women and children.

STATEMENT OF PASSENGERS DEPARTED FROM THE UNITED STATES DURING THE YEAR ENDED JUNE 30, 1869.

Whole number departed from the U. S...83,845
Of which there was—
Males.....52,272
Females.....21,573
Adults.....65,396
Children.....8,449
Departed by steamships.....70,895
Departed by sailing vessels.....2,950—73,845
Departed as cabin passengers—
Adults.....32,343
Children.....4,349—36,692
Departed as steerage passengers—
Adults.....33,053
Children.....4,100—37,153

Total.....73,845

Of this number there departed from New York, 55,939; from San Francisco, 5,933; from Genesee, N. Y. (Rochester), 3,268; from Boston, Mass., 2,417; from Puget Sound, W. T., 1,714; from Portland, Me., 1,215; from Oregon, 1,205; from New Orleans, La., 979; from Baltimore, 689; from Alaska, 312; from Savannah, Ga., 45; from Texas, 28; from Philadelphia, Penn., 10; from Charleston, S. C., 10; from New Haven, Conn., 7; from Cuyahoga, Ohio, 5; from Chicago, 3; from New Bedford 3; Beaufort, S. C., 1; Pearl River, Miss., 1. Total, 73,845.—*Tribune.*

Mr. Delano states in his report that the present Internal Revenue law is not unduly burdensome to labor, and thinks that if the present system should be continued a short time longer the following revenue may be derived from a few sources:

Spirits.....\$60,000,000
Tobacco.....35,000,000
Fermented Liquors.....8,000,000
Incomes, Salaries, and Schedule A. 40,000,000
Stamps.....20,000,000
Banks and Bankers.....3,500,000
Legacies and Successions.....4,000,000
Gas Companies.....2,500,000

Total.....\$173,000,000

Deep Sea Soundings.

At the meeting of the New York Society of Practical Engineering, at Cooper Institute, last evening, Mr. G. C. Gregory read a paper by Prof. William Robinson upon the subject of "Deep Sea Soundings, and the Apparatus for Them." The article premised with the assertion that the researches at the bottom of the ocean have not been prosecuted with the vigor displayed in other scientific observations. The popular idea of the ocean's bed is that it is covered with horrible relics of the dead, whereas it really presents scenes which the poets never dream of, recent researches having revealed rich and beautiful objects. The earliest device for measuring the depth of the sea was the lead and line, which is yet used for shallow soundings. Beyond the depth of 300 fathoms it is unreliable, and has led many to believe that in some places the ocean is bottomless, 50,000 feet of line having been paid out and no bottom reached, apparently. Below a certain depth, it is impossible to tell when the lead reaches the bottom—the weight of the line becomes so great. In laying the ocean telegraph cables it was necessary to have an improved apparatus, and several were proposed, all more or less impracticable or incomplete. One means suggested was by the explosion of a shell at the bottom, either by a lighted fuse or by concussion. Both were found unsuccessful, however, for many reasons, which were set forth in detail. A screw wheel was tried, registering the number of revolutions made in the water. This also had many drawbacks, chief among which were the great weight and the liability to be driven out of its course by strong undercurrents. Brooks's cyclops, which was used by the English in sounding for the cable was very cumbersome and unreliable, as the others were, requiring the force of a 12-horse-power engine to raise it from the bottom. The law of descent was approximated and experienced on. The author described a machine of his own invention, consisting of a rectangular tube, used without a line, and sinks by a weight, which becomes detached as it touches the bottom, and the tube, being filled with air, rises

to the surface. Dr. A. W. Hall, who has just patented a machine for sounding, exhibited his invention. It consists of an air chamber, to which is attached a tube about three feet in length. The chamber is filled with condensed air, and is open at the bottom. The pressure of the water drives the air up into the tube, where the water leaves its mark upon a chemical substance. The apparatus is raised and lowered by a float and automatic weight. It has a graduated scale showing what pressure has been brought to bear, and the depth of water is then easily ascertained by usual well-known rules.

One hundred and ten years ago, an advertisement appeared in a newspaper informing citizens of Philadelphia that they could go to New York by the Philadelphia Stage Wagon and New York Stage Boat, which "performed their stages twice a week." The advertisement reads: "John Butler, with his wagon, sets out on Mondays from his house, at the sign of the Death of the Fox, in Strawberry Alley, and drives the same day to Trenton Ferry, when Francis Holman meets him, and proceeds on Tuesday to Brunswick, and the passengers and goods being shifted into the wagon of Isaac Fitzrandolph, he takes them to the New Blazing Star to Jacob Fitzrandolph's the same day, where Rubin Fitzrandolph, with a boat well suited, will receive them and take them to New York that night." And the traveler was assured that he would be taken back to Philadelphia "with the same expedition as above."—*Railroad and Trav. Journal.*

Pennsylvania Ironmasters Settling in Virginia.

A Virginia paper a few days ago noted the presence, in Alleghany county, in that State, of several large ironmasters from Pennsylvania, who were examining the iron beds of the county, with a view to making purchases and establishing works there for the manufacture of the metal. These gentlemen were Messrs. Farmstone, of Easton, Pardee, of Hazlewood, and Heister Clymer, of Reading. The *Richmond Whig* says:

"We learn that these gentlemen have become the owners of the valuable and extensive properties known as the Lucy Selina, the Australia and the Dolly Ann Furnaces, containing in the aggregate 35,000 acres of land. For the first named property they pay, if we are correctly informed, the sum of \$22,500, for the second \$10,000, and for the third \$35,000. These sums bear a very insignificant proportion to the amount required to be expended in erecting works of the magnitude designed for smelting the ore with mineral coal and manufacturing pig-iron, which will require hundreds of thousands of dollars. The purchasers are not only experts in iron and coal, but they are among the largest operators in Pennsylvania, and represent a capital more than adequate to the largest plans that may be formed in reference to their present enterprises. Their investments are not with an eye to speculation, but to improve and develop the properties they have purchased, and to bring out of them the enormous treasure they contain. They have under consideration, we understand, the immediate starting of one or all the above furnaces upon charcoal fuel, not, however, with the expectation of present profit, as charcoal iron can now hardly be made with profit, in competition with mineral coal iron, but in order to get their mines and works in

good working order while the Chesapeake and Ohio road is being completed to the coal banks of the Kanawha, so that when this is done the mines may be fitted to yield with regularly the immense quantities of ore required in mineral coal iron operations on the scale they contemplate operating. It is understood they will at an early day begin to erect their mineral coal works, which will require several years' labor, with the view of a large production instantly upon their connection with the Kanawha coal field being made. This step at this time is contingent upon the rates the Chesapeake and Ohio Railroad will freight the charcoal iron at, and other facilities."

STEEL MANUFACTURE.—An English inventor, H. A. Bonneville by name, has proposed a new method of steel-making. This consists, first, in introducing fuel or fluxes, either in a gaseous, liquid, or solid form, into the molten metal in a converter, by suction (in contradistinction to the process heretofore known, where fuel has been introduced by force). In such a manner that the quantity of fuel as well as the quantity of air introduced into the molten metal can be regulated; and the requisite amount of heat for refining the iron or for converting it into steel can be produced. Second, in subjecting the fused metal in the converter to a forced current of air in combination with the current produced by suction, or by a vacuum apparatus, in such a manner that the advantages of the vacuum process are combined with those of the forced-air process, and that the action of the air on the fused metal can be regulated with greater facility and nicely than it can if the vacuum process or the forced air process is used independent of the other—*Artisan*

[We understand that some parties in Cleveland, Ohio, are now engaged in obtaining patents not only in this country, but in Europe, for the manufacture of steel by the use of Petroleum as fuel. Petroleum has the advantage over all other articles of fuel, even charcoal, for this purpose, being entirely free from phosphorus. It is said to require about two barrels of Petroleum to the ton of steel—*ED. RECORD*]

NEW USES FOR PAPER.—A new branch of industry has just been introduced. We have for some time been familiar with various novel applications of paper; but now the uses of paper are very much extended by a patent process by M. Pavy. The paper made by this process is of a peculiar kind. It very much resembles that used by the Japanese for pocket handkerchiefs, and is susceptible of the same application. The patentee calls it "felted," and to a certain extent the term is appropriate. Both animal and vegetable materials are employed in its production. Among the vegetables we find some hitherto much employed in manufacture of paper—New Zealand flax, jute, plants of the mallow, and the ordinary fibers, flax, hemp, and cotton. The animal matters used are wool, silk, skins, and other materials, which is certainly a novelty in paper making. These various matters are reduced to pulp and bleached, and then "felted" in appropriate machinery, which is, no doubt, the same as is used in making ordinary paper. It will be easily understood that the mixture of such materials as we have named gives a paper of extraordinary pliancy, flexibility, and strength. It can, indeed, be sewn together with as much ease, and makes

as strong a seam as the woven fabrics it is intended to replace.

The uses to which this paper can be put are innumerable. We may mention a few of the articles we have seen. First, petticoats which no "girl of the period" could resist. These may be printed exactly like the skirts now so fashionable, or they may be white, and have open-work stamped out in patterns, which scarcely any amount of labor with scissors and needle could imitate. The marvel is that they can be sold retail for *sixpence* each. We have next bed furniture, of imitation cretonnes and chintzes. These are printed with patterns of great beauty, and a set of curtains will only cost five shillings. We have also quilts, which besides being non-conductors of heat have a very genteel appearance. While day-covers for beds are made with embossed patterns and equally cheap. White tablecloths, stamped with patterns with remarkably good taste, will, we are sure, soon ornament many a dinner-table, and serve to light the fires on the day after the party, unless the host be of an economical turn and re-sell them to the paper-maker. But the material is also applied to articles of a more substantial character. Very good imitation leather is formed of it, and furniture covering and even shoes may be made. The last can be made impermeable to wet by the introduction of oils and rubber.

We have said enough to show that a material is produced which will probably have considerable influence on some of our staple industries. Paper collars have already had a sensible influence on the linen trade, and the further extensive substitution of paper for woven fabrics must produce still greater changes.—*English Paper.*

WATER POWER OF MAINE.—The results of the recent hydrographical survey of Maine, some of which we have already published, will soon be given in a volume prepared by Walter Wells, Superintendent of the survey. The aggregate power of the streams of Maine is estimated at 2,656,000 horse power. The State contains over 3,100 different water privileges—more than half of which are wholly neglected, and none fully improved—and 1,650 natural reservoirs of an aggregate area of 2,400 square miles. These reservoirs are or can be made tributary to the streams. Moosehead Lake, 120 square miles in area, is 1,023 feet above tidewater; the Umbagog lakes of 77 square miles are 1,256 above tidewater, and the lakes at the head of the Penobscot 900 feet above. The railroads now building in the State will open up available power equivalent to that of 20,000 horses on the Saco, 25,000 on the Presumpscot, 85,000 on the Androscoggin, 100,000 on the Kennebec, and 60,000 on the Penobscot in their lower sections alone. Water power can be furnished in the State at an annual cost of \$8 for each horse power.

The manufacturers of Pittsburg claim the credit of supplying sixty-five per cent. of all the various grades of steel turned out in the United States. The first essays at its production date forty years back, but, according to the *Pittsburg Commercial*, it is within the last eight years that the most remarkable progress has been made, which has placed the steel produced there on an equality with the best imported. According to the census of 1860, the six establishments employed in this manufacture, which then existed in Pittsburg, represented capital amounting to \$1,080,090, and their annual products were valued at

\$888,000, a sum less than the annual sales of a single establishment at the present time. These steel works are now eight in number, and represent an invested capital of \$4,500,000, and their annual products amount to nearly as much. According to the assessor's books, the sales for the past year have reached the value of \$3,936,845, and these, being effected during a period of depression, show the magnitude of the trade. The credit of bringing this industry to its present degree of perfection, is attributed to Mr. Isaac Jones, who has been distinguished as the father of the American steel trade.

A CARD.

A Clergyman, while residing in South America as a missionary, discovered a safe and simple remedy for the cure of Nervous Weakness, Early Decay, Diseases of the Urinary and Seminal Organs, and the whole train of disorders brought on by baneful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope, to any one who needs it, *Free of Charge*.

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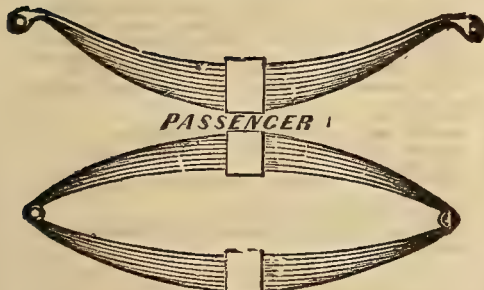
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7.00 A. M., CINCINNATI EXPRESS,

(Sundays excepted.) Arrive Dayton 9.10 A. M.; Urbana, 10.29 A. M.; Galion, 12.57 P. M.; Mansfield, 1.40 P. M.; West Salem, 2.48 P. M. (Dine). (Sleeping Coaches through to New York); Akron, 4.21 P. M.; Ravenna, 5.05 P. M.; Meadville, 7.55 P. M. (Supper); Susquehanna, 8.10 A. M. (Breakfast); Turner's, 2.07 P. M. (Dine); New York, 4.10 P. M. Connects at Ravenna with Cleveland & Pittsburgh Railroad for Hudson and Cleveland; at Elmira for Williamsport and the South; at Binghamton for Cooperstown, Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.26 A. M.; Galion, 4.00 A. M.; Mansfield, 4.44 A. M.; West Salem, 5.56 A. M. (Bkfst); Akron, 7.33 A. M.; Ravenna, 8.20 A. M.; Meadville, 11.16 A. M. (Dine); Hornellsville, 6.19 P. M. (Supper); New York, 7.10 A. M. Connects at Mansfield with Pittsburgh, Ft. Wayne & Chicago Railway for Pittsburgh, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities.

New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through 860 Miles without Change.

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	DEPART.	ARRIVE.
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Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City.....	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at head office, south-east corner of Broadway and Front; Bureau House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

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	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI, 7 00 a.m.	10 10 p.m.	4 00 p.m.	
Arrive BEYMOUE, 12 00 m.	2 00 a.m.	8 10 "	
Leave " 12 20 p.m.	2 10 "		
Arrive VINCENNE, 5 15 "	6 35 "		
Leave " 5 20 "	6 40 "		
Arrive ODIN, 9 35 "	10 30 "		
Leave " 9 45 "	10 40 "	6 30 a.m.	
Leave SANDOVAL, 9 55 "	10 50 "	6 40 "	
Arrive ST. LOUIS, 1 00 "	1 30 p.m.	9 40 "	
Trains Arr. at C. O'el, 6 10 a.m.	11 30 p.m.	12 00 m.	

For tickets, or information apply at Offices, 132 Vine street, Corner Front and Broadway; and at Depot, Foot Mill Street.

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And all Rail and River Towns and Cities in the West, North west and South-west.

ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail....	6 30 am	12 20 am
St. Louis and Springfield Express....	3 35 pm	8 20 am
St. Louis and Springfield Express....	10 35 pm	3 30 pm
Lawrenceburg Accommodation.....	10 00 am	2 35 pm
Lawrenceburg Accommodation.....	4 45 pm	8 05 am

*The 10:35 pm. train will leave Sundays, but not on Saturdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail.....	7 00 am	10 00 am
Chicago Express.....	6 30 pm	9 40 pm
Harrison Accommodation.....	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

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On Sundays, 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West, 7.35 A. M.; 7.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)SUNDAY TRAINS—Leave Philadelphia for Baltimore at Washington at 4.15 A. M., and 11.00 P. M. Leave Baltimore for Philadelphia at 8.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.**The Old And Reliable Route.****Through to Pittsburg without Change.**

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Morning Mail.....	7.00 A. M.	9.30 P. M.
Evening Express.....	5.45 P. M.	9.40 P. M.
Walton Accommodation.....	4.10 P. M.	9.30 A. M.

*The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on the Walton Accommodation, offer great inducements to the citizens of Cincinnati and Covington who wish to purchase country residences or small farms for gardening. This train leaves late in the afternoon, and arrives early next morning, giving all day to attend to business. For further information as to routes, low fare, &c., please apply at No. 1 Burnet House, or Depot Covington, Ky.

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Passenger and Freight Depot in New York, foot of Liberty st., connects at Hampton Junction with the Delaware, Lackawanna, and Western Railroad, and at Easton with the Lehigh Valley Railroad, and its connections, forming a direct line to Pittsburg and the West, without change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago, Cincinnati, St. Louis, etc., with but one change of cars. Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk, Williamsport, Wilkesbarre, Mahanoy City, Tuckahanna, &c.
7:15 a. m.—For Somerville.
8:30 a. m.—For Flemington, Junction, Stroudsburg, Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.
12 m.—For Flemington, Easton, Allentown, Mauch Chunk, Wilkesbarre, Reading, Columbia, Lancaster, Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.
3:30 p. m.—For Easton, Allentown, Mauch Chunk and Belvidere.
4:30 p. m.—For Somerville.
5:25 p. m.—For Somerville and Flemington.
6 p. m.—For Easton and intermediate stations.
7 p. m.—For Somerville.
7:20 p. m.—EMIGRANT—Stopping only at the principal stations.
9:00 p. m.—For Plainfield.
11:50 p. m.—For Plainfield, on Wednesdays and Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,) for Easton, Allentown, Harrisburg, and the West without change of cars to Cincinnati or Chicago, and but one change to St. Louis. Connects at Harrisburg for Erie and the Oil Regions. Connects at Junction for Stroudsburg, Water Gap, Scranton, &c. Connects at Phillipsburg for Mauch Chunk, Wilkesbarre, &c.
5 p. m.—CINCINNATI EXPRESS, daily (except Saturdays,) for Easton, Bethlehem, Allentown, Reading, Harrisburg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars to Pittsburg and Chicago. Connects at Junction with Delaware, Lackawanna and Western Railroad for all stations to Scranton. This train will be run to Easton on Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton, Allentown, Reading, Harrisburg, Pittsburg, and the West—connects at Harrisburg with train for Williamsport, Erie, &c.
 Sleeping cars through from Jersey City to Pittsburgh every evening.
 Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15, 8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:10, 2:10, 3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:10, 6:25, 7:10, 7:25, 7:40, 8, 9, 9:00, 9:40, 10:45, 11:50 p. m.
 Tickets for the West can be obtained at the office of the Central Railroad of New Jersey, foot of Liberty st., N. Y.; at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at No. 10 Greenwich st., and at the principal hotels.
 R. E. RICKEY, Superintendent.
 H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON, - - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, DECEMBER 23, 1869.

The Railroad Record,

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What is the Wealth and Income of this Country?

If this problem could be fairly solved it would be the best possible basis for a fair settlement of our debt and revenue questions, for when we had ascertained exactly what was the wealth of the country, and how it was distributed, we would know what the country can most easily spare, and how it can be most easily raised. Several attempts have been made to ascertain the wealth of the Nation, especially in the last two census, but the returns are very inaccurate and imperfect, affording only very uncertain data for determining the problem. The following are the aggregate results by the census of 1850 and 1860:

Value of real and personal property in 1850.....	\$7,135,780,228
Value of real and personal property in 1860.....	16,159,606,068
Increase.....	126.45 per ct.

Now, if we suppose the wealth of the country has increased 100 per cent. since 1860, and that is less than the previous increase, the result would be \$32,318,212,136. But the census returns were far below the fact, and are generally taken from the assessments made in the several states for taxation. Nothing is more certain than that those assessments were far below the truth. For example, the valuation of New York was set down at \$1,800,000,000 and Ohio at \$1,200,000,000. So that New York was only 50 per cent. in advance of Ohio, although the population was more than that in advance, and the moneyed and personal property far greater in proportion. Ohio was, we know, below the truth, but nearer to it than most states were. New York, therefore, ought to have increased seven hundred millions.

We incline, therefore, to think that the true value of property in the United States will reach at least \$40,000,000,000 (forty

thousand millions of dollars). We find this opinion confirmed by a paragraph in Mr. WELLES' report. He gives the following table:

ANNUAL VALUE OF THE PRINCIPAL PRODUCTS OF THE UNITED STATES.

A summary statement of the values created by the leading industries of the country appear to be substantially as follows:

Agriculture.....	\$3,282,950,000
Cotton manufacture.....	71,500,000
Woolen manufacture.....	66,000,000
Iron production, pig and bar.....	119,950,000
Leather manufactures.....	222,600,000
Railway service.....	350,000,000
Fisheries.....	100,000,000
Total.....	\$4,223,000,000

We found, by actual investigation that the profits of agriculture on good land were 10 per cent. Of course the above aggregate does not mean profits, but it is that substantially, because the whole of that product has gone into the consumption or the pockets of the people. You will say a large portion went to laborers. Exactly so, but those laborers consumed their proportion of the above products. It is, therefore, fair to say, that the whole product of the land and labor of the country forms its real income; and what is the capital of an income of four thousand millions of dollars per annum? Forty thousand millions will be a low estimate.

But, Mr. WELLES has not included near all the sources of wealth, and has undervalued some of those he has included. For example, his estimate of the value of cotton and woolen manufactures is below that of 1860. The estimate of railway service is probably much below the fact. Mr. WELLES estimates an increase of only \$9,000,000,000. Some examples of the increase in states may serve as examples for the whole country. We will take some of the new North-western states:

	In 1860.	Probably now.
Illinois.....	\$871,860,260	\$1,400,000,000
Iowa.....	247,338,265	550,000,000
Kansas.....	31,327,875	200,000,000
Michigan.....	257,163,983	600,000,000
Minnesota.....	52,294,413	400,000,000
Missouri.....	501,214,398	1,000,000,000
Wisconsin.....	263,671,668	500,000,000
Nebraska.....	9,131,056	200,000,000
New Mexico.....	20,813,000	100,000,000
Utah.....	5,599,000	60,000,000
Cal. & Nevada.....	207,874,613	600,000,000
Totals.....	\$2,465,295,551	\$5,610,000,000

We suppose that our estimate is an under one, but we have made it on certain returns and well known facts in some of those states. Our estimate of forty thousand millions of property (\$40,000,000,000) is founded on what we believe to be two undeniable facts. 1 That the returns of 1860 based on the State assessments were unquestionably much too low. And 2. That the actual increase in ten years is at least 100 per cent. If this be true, then the aggregate of 1860 should be at least \$20,000,000,000, and the returns now should be \$40,000,000,000. However that may be, the increase has certainly been very great.

Let us suppose that since 1860 there has only been an increase of \$10,000,000,000, what

bearing has that on the national debt? On this assumption, the increase of property since 1861 has been four-fold the whole national debt. It is true, that this is not available to pay the debt at once, but unquestionably it goes just so far to increase the credit and stability of the debtor nation.

Let us now apply it to the interest on the debt. We raise about \$350,000,000 per annum for all purposes. Now, if the property of the country has increased ten thousand millions (and even Mr. WELLES admits that it has increased nine) then the basis of taxation has increased one-fourth, and substantially we have only three-fourths as much to pay with as we would have had in 1861. But this increase is constantly going on from year to year. So that if we look at it in the true point of view we shall find that the national debt is relatively diminishing from year to year, even if we do not pay a dollar. We state these facts because there is an uneasiness in the minds of many people about the debt and interest, which is really not at all justified by the facts. This nation increases in property as well as in numbers and strength, at a rate which was never equalled in the world.

Last year there were 250,000 immigrants to this country. We suppose that 50,000 were able bodied laborers. Suppose that their labor is worth \$1.25 per day. This is equal to \$175 for each one in a year, which is equal to \$33,750,000 added to the production of the country by the immigration of each year. But these people increase in numbers and labor as others do, so that each year adds by immigration alone vastly to the wealth of the country. But it is not our purpose to go into details. We only wish to show that taking ten years into view, the national debt is but a small part of the increase of national property.

Finance.

We hear from Washington that the amount of coin now in the United States Treasury is \$118,000,000.—N. Y. Tribune, Dec. 20.

The condition of the finances of the country, at the present moment, is anything but satisfactory to the busy, active, energetic men of the country. It is seen everywhere in glaring bankruptcy and disaster. With superabundant crops,—industry wonderfully required by nature, prices are depressed, all values shrunk to a minimum, rates of interest exorbitant, currency scarce, and nearly all, or not less than one-third, the active currency of commerce locked up in the national treasury, to be used at the caprice of the Secretary in regulating, to his notion, all the values of the country. We say this is an anomaly in finance that has yet to find a parallel in the history of this nation, or the world.

The Secretary of the Treasury is no longer a Secretary, but a speculator, a Wall street broker, a gold gambler, a trifier with the interests of the people, a changer of values all over the nation, a head bull, and body and breeches a bear. All this, without the ordi-

nary responsibility of common speculators, he runs none of the risks of the *common bulls* and bears of Wall street—no loss on gold affects his pockets—no increase in the market price of that commodity makes any difference to him—he can with impunity *bull* or *bear* a pleasured.

The time has come for this to be changed—indeed it never should have been—there never was a necessity for it. We do not need a speculator, a Wall street broker, a gold gambler, or an interferer with the business of the people at the head of the bureau of finance, the nation needs and only requires of him to be a *safe custodian* and *disburser* of the public treasure. This is all that is required of him—all that he should do, and Congress should see to it that he does no more.

The inquiry arises, what shall we do with the vast accumulation of gold? Why the truth is, there never should be any such thing! The currency of the country is issued on the faith and responsibility of the people—(we are every one of us responsible for every dollar of it)—and is intended for the use and accommodation of the people in making transfers in property. The Government being in debt, has no right—any more than an individual—to hoard either currency or gold. The Government should pay its debts as far as it is able to do so, and as fast as possible. Why should \$118,000,000 of gold be locked up in the vaults of the Government, crippling the energies of the nation! Let it out, and by that much reduce the interest bearing debt of the country. That at least will save something. Let the people have the money of the country on which to do business, to trade and traffic, to build their railroads, develop the resources of the nation, and they will be the better able to pay their taxes and extinguish the national debt.

HOW TO PREVENT THE ACCUMULATION OF GOLD IN THE TREASURY.

This is a most serious evil—indeed it is the father to all the train—and Congress owes it to the people to remedy the foul, leprous spot. It matters but little to either the Government or the people what is the price or value of bonds; but it makes a great deal of difference to the people to know what is the value of *greenbacks*—the currency of the people, in which all their trading and trafficking is done. Hence, it is not so much the duty of the Government to protect the *price of bonds* as it is to see that the value of *greenbacks* approximate as near as possible to the gold standard, and that the people have enough of them to do the business of the country. It should not be forgotten that there are twice as many people, and that it requires more than twice as much active currency to do the business of the country, as it did twenty years ago. How can this be done? Not, by depreciating gold, reducing its intrinsic value, or playing the *bull* or *bear* in

Wall street. The real truth is, the Government receives more gold from customs than is necessary to meet its obligations, forcing the Secretary while gold is at a premium, to become a trader, a *bull* or a *bear*, as may best suit his notions of the interest of the treasury, or *personal* friends. All Treasurers, it should be remembered are human, and may have friends to reward or enemies to punish. But, if he did not sell, it will be urged, the treasury would soon contain all the gold in the country. It should not be allowed to get there; this necessity to sell would never arise if a sensible policy, looking entirely to the interests of the people, should be adopted. In the first place let us elevate the *greenback*, and thus approximate towards specie payments, by the Government agreeing to receive in payment for customs say twenty-five or thirty-three per cent. or such other sum as would insure only a sufficient amount of gold for the wants of the treasury to meet its gold obligations. This would elevate the currency of the people (the best we ever had) the *greenback*. It would not depress gold, but raise the *greenback* to the gold standard and we doubt not would precipitate a return to specie payments in a reasonable time—possibly within the next six months. The demand for gold would be lessened—the supply increased—the people would have the benefit of increased currency, and by increased business, for business is increased by increased facilities, enabled to bear the burthen of the present taxation—and with the tariff kept up to its now existing standard, home labor, properly protected, the income of the Government would be increased—the debt reduced—the country developed and the material resources of the nation enhanced. A judicious policy, we say will give us all these, while the opposite will bring on the people and nation universal disaster, ruin and bankruptcy.

The Iron Trade.

Statement of the export of rails from Great Britain, compiled from official returns published by authority of the House of Commons. From S. W. Hopkins & Co., exporters of railway iron, 58 Old Broad street, London, Nov. 30, 1869:

Countries.	10 mos. end'g Oct 31.	
	1868.	1869.
AMERICA—		
United States	228,091	262,829
British	15,535	23,929
Cuba	2,662	885
Brazil	2,171	2,913
Chili	1,450	2,762
Peru	3,159	18,720
EUROPE—		
Russia	100,554	247,278
Sweden	1,596	3,938
Prussia	5,721	14,910
Illyria, Croatia & Dalmatia	10,498	22,317
France	161	4,235
Holland	21,113	10,078
Spain and Canaries	7,392	11,609

ASIA—		
British India	61,333	76,200
Australia	8,131	19,542
AFRICA—		
Egypt	10,512	6,051
Other Countries	29,889	65,123
Total	509,969	793,619
Old iron to all countries	81,569	95,131
Pig iron to United States	75,504	118,297

From the above, it will be observed that the United States is the largest customer of the Iron Masters of Great Britain, that our trade with them is increasing; hence, it is no wonder that they manifest so much anxiety about the *tariff on iron*. Let us suppose for a moment, the tariff on pig and railroad iron should be reduced to such a point that it would react on that department of industry in our own country and stop production. What would be the result? Why simply this, the cost of pig and railroad iron would for the moment be reduced equivalent to the amount taken off from the tariff, but as soon as the English market felt the rebound of increased orders, the effect would be different. The price would go up, perhaps to or above the present figure. How then would the account current stand with American industry? Factories stopped—mines closed—skilled labor scattered and employed in other pursuits—gold, or obligations to pay for the entire amount of iron imported, sent abroad, instead of being retained at home—home market for the products of the farm destroyed and forced to seek a foreign outlet—capital in factories and mines sunk—and eventual bankruptcy and ruin. All for what?—a mere temporary reduction in price, to continue just long enough to destroy our own factories and then, with the increased demand on the foreign manufactures and the absence of the competition of American production, goes the price. What have we gained—nothing; not even the good will of the Britishers, for this course will soon make us unable to pay for what we would want to buy, and there is no one in the world has such a contempt for a “poor cuss” as these very English. If it is asked what have we as a nation lost, we will repeat—factories stopped—mines closed—skilled labor scattered—invested capital destroyed—gold paid out—and a great general debt contracted that will require us to pawn our energies for another generation to cancel.

“That’s the way the money goes,
Pop goes the weasel.”
Keep on the tariff—encourage home industry—don’t disturb the internal revenue law, nor do anything to cripple our ability to pay it—get out of debt as soon as possible, and let us make more rapid strides in the development of national resources and progress.

—The Selma and Gulf Railroad (Selma to Pensacola) is graded for twenty miles south of Selma. Twenty-five miles are to be in running order by the end of the year.

THE CONQUEST OF AFRICA—The English expedition under the command of Sir Samuel Baker, and dispatched by and at the expense of the Khedive of Egypt to conquer and take possession of that immense and fertile region vaguely known as the "Basin of the Nile," has set forth under the most favorable circumstances. The expedition consists of sixty-five vessels, steam and sailing, and of about 2,000 persons. On the vessels are five steel steamboats, ready to be put together, built in London, which are to navigate the Albert Nyanza and the other great lakes that may be found, and boat-builders are taken along to construct such wooden vessels as may be needed for the navigation of the rivers and lakes of Equatorial Africa. The expedition is furnished with ample stores of provisions and supplies of every character; the Khedive has not shrunk from the great expense incurred, being well persuaded that the accession which he is about to make to his territories will be of immense value; and as Sir Samuel Baker will keep his communications open and send a monthly mail to Cairo and Alexandria, the world will be kept informed of the progress of this remarkable conquest of a country hitherto unknown, save by the stories of Speke, Burton, Grant, Livingstone and Sir Samuel Baker himself. It is thought that if the surmise is correct that the chain of lakes recently discovered by Dr. Livingstone south of tenth parallel of south latitude really extends to and communicates with the Albert Nyanza, there will no longer be any serious difficulty in opening the whole interior of the African continent to trade, which means simply a new market for the industrial products of the civilized portions of the world.—*Artisan*.

[Everything depends on the means of transportation. France has captured a large portion of Africa, and the avarice of England has been incited by the hope of extending her territory and market. If the Nile should be found to be navigable to the great lakes, the expedition will be "a success." If not, the probabilities are it will be a failure. There is one thing certain; the continent of Africa can not remain another quarter of a century a *terra incognita*. Civilization will spread itself over its dark face, if for no other object, to search for gold. Gold hunters will carry the civilization of Christianity with all the virtues and vices of our race from the Mediterranean to the Cape of Good Hope. They will sweep over the continent like a tidal wave. Steam locomotion and telegraphic expression of thought can not long brook this barrier to progress. The rest of the world has been conquered during the past forty years by these subtle agents, and we can see no reason why this portion of the globe shall not yield to their influence.]

It is said that the proposed consolidation of the Lake Shore, and Michigan Southern, and the Toledo, Wabash and Western Companies is likely to be defeated, owing to the opposition of some stockholders of the Lake Shore road having taken legal steps in Ohio to prevent the consummation of the consolidation programme. A vote of the stockholders is to be taken on the subject on the 29th instant.

Among the most welcome of our literary and religious exchanges is the *Christian Union*, published by J. B. Ford & Co., of New York. It is under the editorial control of HENRY WARD BEECHER, a sufficient guarantee of the character and ability of its columns. Whatever may be said or thought of Mr. BEECHER'S *Beecherisms*, there can be but one opinion of his talent and ability as a writer.

Mess. Ford and Co., also publish in pamphlet form what they term the "Plymouth Pulpit," a weekly publication of sermons preached by Henry Ward Beecher. These are gotten up in excellent shape for binding, and the only authorized regular publication of Mr. Beecher's current sermons. Persons subscribing for both can obtain them at \$4.00 a year.

Louisville and Knoxville Branch.

Geo. M. Leod, the chief engineer of the Louisville and Nashville railroad, in his report to the company, dated September 1st, 1869, gives the following information relative to the condition and the necessary expenditures to complete the Louisville and Knoxville branch.

A resolution of the Board of Directors, bearing date October 12, 1868, suspended indefinitely all work on the Knoxville Branch south of the crossing of Big Rockcastle river, and restricted the monthly expenditures upon the unfinished sections between Mount Vernon and that river to \$15,000 per month. In thirty days after the passage of the resolution the contractors south of the river dismissed their forces. The work executed by them was subjected to a careful measurement, and its value was found to be as follows:

Bet. Gresham's Ferry and mouth Little Rockcastle.....	\$4,299 72
Bet. mouth of Little Rockcastle and Kemper's.....	8,935 00
Bet. Kemper's and summit of London Ridge.....	255,823 00

Total expenditure south of Rockcastle river.....\$269,057 81

At this date, September 1, the work of construction on the road between Mount Vernon and the crossing of Rockcastle river, eleven miles, is completed and ready for the rail track, with the exception of some unfinished work in the "Newcomb Tunnel," on section 64, the framing and raising of four hundred feet of trestle work on section 69, and the superstructures of the Roundstone bridges, Nos. 1 and 2. Eight of the eleven miles are ballasted with broken stone. Cross ties for the rail track have been delivered, and the work of tracklaying will be commenced by the 15th of the present month, and will doubtless be completed by December 1st.

The terminus of the Knoxville Branch will then be at the end of the 73d section, a few hundred feet from the west or right bank of Big Rockcastle river at Gresham's Ferry. It will be twenty-five miles from Crab Orchard and one hundred and forty miles from Louisville.

The terminus will also be eighteen miles from London, sixty-two miles from the Tennessee State line, in the direction of Knoxville, and seventy-five miles from Cumberland Gap.

The exhibit of graduation and masonry shows an expenditure to this date of \$776,

765 between Crab Orchard and Big Rockcastle river, distributed as follows:

Between Crab Orchard and Brodhead, 7 miles.....	\$30,623
Between Brodhead and Mount Vernon, 7 miles.....	235,000
Between Mount Vernon and Rockcastle river, 11 miles.....	511,142
	\$776,765

Add the following items:

Unfinished work on section 64.....	\$5,700
Trestling on section 69.....	1,500
Removing slips on sections 69 and 72.....	1,000
Bridge superstructures.....	13,500
	21,700

Total cost of road bed.....\$798,465

There are five tunnels within the distance, with a total length of 2,812 feet. There is an embankment on section 64, with an extreme height of 127 feet, and with a length from grade to grade of 1,000 feet.

For the purpose of placing them on record, I submit the following estimates, showing cost of completing the Knoxville Branch to the Tennessee State line.

From Rockcastle river to London—18 miles:

Unfinished masonry, grading and bridging.....	\$200,000
Twenty miles of ballasted main track and sidings, at \$12,000 per mile...	240,000
Superintendence, station build'gs &c	30,000

\$470,000

From London to Tennessee State line—44 miles:

Grading, masonry and bridging.....	\$650,000
48 miles of main track and sidings (ballasted).....	576,000
Superintendence, station build'gs, &c	100,000

\$1,326,000

I am not in possession of information upon which to base a reliable estimate of the cost of extending the Knoxville Branch from London to Cumberland Gap. But assuming the distance between those places to be fifty-seven miles, and the cost of a railroad per mile to be equal to the one from London toward Knoxville \$30,000, we will have a total cost of \$1,710,000 from London to Cumberland Gap.

It will be seen from the above estimates that an expenditure of \$1,796,000 will be required to extend the Knoxville Branch from Rockcastle river to the Tennessee line, in the direction of Knoxville; also, that its extension to Cumberland Gap will require an expenditure of \$2,180,000.

A full equipment of motive power and rolling stock will add \$4,000 per mile to these estimates.

In connection with this report of the progress of the Knoxville Branch during the past year, a short account of the present condition of the Knoxville and Kentucky, the Morristown and Cumberland Gap, and the Bristol and Cumberland Gap roads in East Tennessee will not be deemed uninteresting.

The construction of the two last named roads has been the subject of speculation at frequent intervals since the close of the war, but no attempt has yet been made in the way of construction. The Bristol connection is stated to be one hundred miles in length, and to cost \$3,000,000, and the Morristown connection to be fifty miles in length, and to cost \$1,500,000. These estimates do not probably cover an equipment of machinery and rolling stock. Moreover, they are derived from sur-

veys made many years ago, and a large allowance must be made for the advance in the price of labor, tools and supplies. From Morristown there is a well constructed road to a point within three miles of Paint Rock on the North Carolina line. Between Paint Rock and Asheville and between Asheville and Morgantown a road has been in course of construction for some months past. There is a fair prospect of a connection by rail with the seaboard of North Carolina in all the year 1871.

The Knoxville and Kentucky Railroad has thirty-one miles in operation to Coal creek. From that place northward fifteen have been ready for the rail track since last march. The next nineteen miles to the State line were let to contract a year ago, but the work of construction has never been commenced. A suspension of work took place last March, consequent upon a failure to procure additional assistance from the State of Tennessee. At that time the indebtedness of the company to the State was \$2,300,000 in bonds and \$200,000 for arrears of interest. To complete the Knoxville and Kentucky road in the same style as the finished portion of it—that is, with the same width of road bed, character of bridging, weight of rail, etc.—will require an expenditure of \$1,100,000. To furnish the road with a full equipment of rolling stock and motive power, a further expenditure of at least \$200,000 will be necessary.

Pacific Railroad.

EXTRACT FROM THE REPORT OF THE SECRETARY OF THE INTERIOR.

The Union Pacific Railroad Company, during the last fiscal year, completed 165 88 100 miles of railroad and telegraph, terminating at Promontory Summit. The distance therefrom to Omaha is 1,085 88-100 miles. The joint resolution of 10th April, 1869, provides: "That the common terminus of the Union Pacific and the Central Pacific Railroads shall be at or near Ogden; and the Union Pacific Railroad shall build, and the Central Pacific Railroad Company pay for and own, the railroad from the terminus aforesaid to Promontory Summit, at which point the rails shall meet and connect and form one continuous line." The connection was formed on the 10th of May last. This department has not, however, been advised of any agreement by the companies respecting the location of their "common terminus." The company report that, since the connection, trains have been run with a regularity not surpassed on the oldest roads in the country, and that an adequate force has been constantly engaged in making such improvements as would render their road in all respects equal to the standard prescribed. They furnish the following statement: Amount of stock subscribed, \$24,777,300; actually paid in, \$24,762,300; received from passengers from 1st July, 1868, to 30th June, 1869, \$2,453,672 45; from freight, \$4,223,463 39, and from telegraph, &c., \$465,135 32. The average number of miles of road operated during the year was 854 65-73; and the gross earnings were \$8,342,271 16; and the operating expenses, \$5,894,268 63; leaving as net earnings, \$1,448,002 53. The entire cost of the road to 30th June, 1869, not including unadjusted balances with engineers and contractors, was \$92,748,762 14, and the indebtedness of the company at that date, \$67,986,462 14.

Stock of the Kansas Pacific Railway Company, to the amount of \$5,072,500, has been

subscribed and paid in. The receipts for transportation of passengers and freight from 1st September, 1868, to 31st August, 1869, were \$2,141,198 47, and the net earnings, \$946,635 11. The cost of construction, surveys, right of way, and of real estate purchased to the latter date, was \$23,705,757 53 and the then indebtedness of the company, \$18,263,504 58. Including the Leavenworth Branch, 438 miles of road have been constructed, and it is expected that the line to Denver will be finished and in successful operation during the next Summer.

Stock of the Central Branch Union Pacific Railroad Company to the amount of \$1,000,000 has been subscribed, and \$980,600 paid. The receipts for the transportation of passengers and freight from 1st August, 1868, to 1st August, 1869, were \$109,064 31. The actual cost of the road, fixtures rolling stock, &c., is \$3,723,700; and the indebtedness of the company for borrowed money, railroad iron, and freights, \$98,834 29.

The Sioux City and Pacific Railroad has been completed and accepted. Its length is 101 27-100 miles. The amount of capital stock of the company subscribed is \$4,271,000, of which \$1,677,900 has been paid. The receipts from the transportation of passengers and freight from 1st October, 1868, to 30th September, 1869, were \$233,724 25, and the operating expenses, \$151,920 20. The cost of the construction and equipment of the road is \$4,236,503 49, and the indebtedness, \$4,934,220.

The amount of stock of the Western Pacific Railroad Company subscribed, all of which has actually been paid in, is \$881,100. During the year ending 30th June, 1869, the receipts from passengers and freight, were \$6,173 37, and the running expenses, \$260 87. The indebtedness at that date, unsettled accounts with contractors not included, was \$851,000. Since the last annual report of the department, eighty three miles of their road have been built and accepted.

The foregoing statement of the business and financial condition of the companies has been compiled from the reports which they respectively filed in the department pursuant to the act of 25th June, 1868. Neither the Northern Pacific, the Atlantic and Pacific, nor the Southern Pacific Railroad Company have complied with the act.

Pursuant to the authority conferred by the act of 3d March, 1869, the Kansas Pacific Railroad Company entered into a contract with the Denver and Pacific Railway and Telegraph Company for the construction, operation and maintenance by the latter of that part of the road of the former company which extends from Denver to Cheyenne. A copy of the contract and a map of the route between those points have been filed in this department, and the granted lands withdrawn from market. One thousand dollars appropriated by an act of 3d March, 1869, have been expended in competing the bridge over the Dakota River, and in locating and surveying the wagon road between it and the Vermilion River. There is a balance of \$45 53 of the appropriation for the bridge across the Big Sioux River, and for the wagon road between Sioux City and the mouth of the Big Cheyenne River. No further work has been done on the road from Virginia City, Montana, to Lewiston, Idaho.

—The snow sheds of the Central Pacific Railroad, which were burned, have been rebuilt and extended until they now aggregate thirty-five miles in length.

A New Route Between the Seaboard and the West.

There is, we perceive, a movement begun on the part of some eminent New York capitalists to extend the line of railroad, formerly known as the Virginia Central, (and which has been halted since the beginning of the war at the West Virginia boundary,) to the Ohio River at the confluence with the Big Sandy Branch, so as to constitute another Grand Trunk Line connecting the tidal waters of the Atlantic with the inland river system of the Mississippi Valley. The affairs of the old corporation have recently been put upon a new footing and under the title of the Chesapeake and Ohio Railroad Co., the enterprise is to be pushed to completion with vigor.

The new line possesses several advantages of location peculiarly its own; and will be in a position to compete on most favorable terms with the four great consolidated tiers of lines upon which the East and West traffic is at present confined. In the first place it is centrally situated. Its eastern terminus will be at Richmond where it will connect with vessels drawing 15 feet water, and within easy reach of West Point and Newport News, where there is a depth of 21 and 22 feet, or of Norfolk, which is the best and deepest harbor on the Atlantic coast. From Richmond or Washington City the line, as now built, will have a length of 350 miles to the navigable waters of the Kanawha Rivers; and a length of 438 miles to the mouth of the Big Sandy, distant by a proposed line 140 miles from Cincinnati. By a new survey of the eastern portion of the line, the line can be shortened 40 miles, which will thus render the Virginia route the shortest one between the great cities of the West and the tide water navigation of the Chesapeake Bay. Taking Cincinnati and Chicago as prominent points, the comparison of distances would be as follows:

	Richmond	Washing-	Washing-Balt. via
	via Ches.	ton via	ton via
	& Ohio.	C & O	B. & O. R. Ohio.
Cin'ti to...	564 m.	584	613
Chicago to 860	880	852	830

Deducting 40 miles from the distances by the Chesapeake and Ohio, for abbreviations hereafter to be made, it will be seen that this advantage of distance will be in favor of the new route by from 40 to 150 miles between these great points of travel. The advantage in grades is even greater; the maximum grades on the Chesapeake and Ohio being 75 feet to the mile; against 90 feet on the Pennsylvania Central, and 116 feet on the Baltimore and Ohio. The line following the valleys of the James and Kanawha Rivers is remarkably direct between the inland and coast navigations. The Ohio is navigable at all seasons of the year to the mouth of the Big Sandy, which is about 350 miles below Pittsburgh, and 250 miles below Wheeling. From the Big Sandy lines are being constructed on the South side of the Ohio to Lexington, Ky., and to Cincinnati.—*Am. R. R. Journal.*

NEW CANAL FOR THE PHOSPHATE TRADE.

The famous beds of phosphate of lime, near Charleston, S. C., cover an area of 600 to 700 acres. They are eighteen inches to two feet thick; the phosphate is worth in Charleston \$6 a ton for fertilizing purposes, and the value of the entire deposit is estimated at \$6,000,000. It is proposed to construct a canal fifty feet wide, three feet deep, and two miles and a quarter long, extending from the phosphate beds to Ashley river, so that the material can be boated down to the city.

Blue Ridge Railroad.

The Anderson *Intelligencer* says the adjustment of the differences between the Company and the contractors has been under advisement during the past week, and it is stated that the Directors have agreed to pay seventy five thousand dollars, which has been agreed to by the contractors and all claims withdrawn. It is supposed that they had done about fifteen or twenty thousand dollars' worth of work on the road. The work will be continued, until the funds now in the hands of the company, \$4,000,000 appropriated by the Legislature has been expended. This is the plan originally advocated by the President and Chief Engineer, and is the most feasible and economical, in our judgment, although the advantages of an early completion of the enterprise which induced the contract with Creswell & Co, are to some extent diminished by this result. We hope to announce at an early day that the work is progressing under the direction of the Chief Engineer, and that all needless opposition to the road has been effectually silenced.

There is to be a stockholders meeting of the Lake Shore & Michigan Southern at Cleveland on Dec. 25, for the purpose of adopting or rejecting an agreement for consolidation with the Toledo, Wabash & Western R. R. Co., entered into by the respective Boards of Directors, Oct. 23.

NEW MUSIC.—"Sweet Angel Face on the Wall," by B. Frank Butcher is one of those touching pieces that brings back sweet memories of those we love. "Kiss my little ones for me," by Charlie L. Ward, one of the sweetest pieces of music that we have received for some time. "Wilhelmina, the golden haired," by Mrs. Emma L. Morse, is also very pretty and can not fail to give general satisfaction to our lady friends. "The Smiling Spring," polka, by F. H. Schaeffer, is a lively addition to the class of music to which it belongs, while the "Wickedest Girl that's out," is dasy and brilliant. The whole are well adapted as Christmas souvenirs that add unmixed pleasures to the parlor. Published by John Church & Co.

CHINESE LABOR DEFICIENT FOR THE NEXT FEW MONTHS.—Koopmanschaap is in San Francisco. Of his Chinese movements the *San Francisco Bulletin* says: "He says that 500 of these people will leave this State by the overland railroad, who will be employed on the Memphis and El Paso Railroad at \$30 gold per month. He states also that there are about 3,000 Chinamen in California now who are out of employment, and that more of them are at present returning to China than are coming here, owing to the approach of their holiday season, when all Chinamen who wish to and can, go back to the Empire. This state of things will probably continue for some months. He says the plan of taking large numbers of Chinamen through this State and overland to the South is not practicable, for like other sensible workingmen, they would be likely to stop where the highest wages can be had. There is a chance for paid coolie labor in the South, but the track of their immigration will be across the Indian Ocean, through the Suez Canal, and across the Atlantic to New Orleans."

Railroad Items.

—We have seen a map of the line of the Southern Pacific Railroad. From Norfolk to Bristol it is a straight line; from Bristol it goes to Nashville; thence via Jackson, Tennessee, to this city. From this city it is to go to Little Rock. From Little Rock the extension (called the Memphis and El Paso road) will run in a southwestern direction to Texarkana, thence to Dallas on the Trinity River, thence by El Paso and Fort Yuma to San Diego. One section of this line, from Jefferson to Paris, in Texas, one hundred and fifty miles in length, is now in process of construction, and a part of it will be open for business next spring. At the western end surveys are being made from San Diego and Fort Yuma. —*Memphis Sun*.

—A greater length of railway has been built in Iowa this year than in any other State. At the close of 1865 there were seven hundred and ninety-three miles finished. At the close of 1867 there were eleven hundred and fifty-two miles finished—an increase of three hundred and fifty-nine miles in these two years. One year later—January 1, 1869—the total completed was one thousand four hundred and fifty-one miles—an increase of two hundred and ninety-nine miles in 1868.

By letters before us, from officers of the sixteenth railway in Iowa we learn that in the year now closing there will be a grand total of *six hundred and forty-three miles!* On eight of these lines there is some yet to build before the amount is reached. But nine-tenths of the work is done.

—The region traversed by the new road between the waters of the James at Richmond and those of the Kanawha and Big Sandy Rivers abounds also in the best coal (both anthracite, bituminous and splint), as well as iron, salt, timber and productive farming lands, so that the advantages of cheap fuel and a considerable local traffic would be added to the others which have been noticed — *Financial Chronicle*.

[This is the first that we have heard of anthracite coal being as abundant in either the Kanawha or Big Sandy valley.]

—The Little Rock (Ark.) *Gazette* says that the Little Rock and Fort Smith Railroad is in process of construction in earnest. Hands have been put on the second and third division of ten miles each, the first division being well nigh graded ready for the track. One hundred and fifty additional hands have been engaged; and are looked for daily. There are two hundred tons of iron for the road at the mouth of White river, and two thousand tons are in transitu for the first twenty miles. A locomotive, two passenger cars, built at Albany, and a number of platform cars for the road are also on the way. On their arrival the company will be ready for track laying.

—The Rome (Ga.) *Courier* says there are now 2,055 hands at work between Rome and Dalton, on the Selma, Rome and Dalton Railroad. The grading will be commenced in the next thirty days. They have commenced laying the track on the Rome end, and will commence on the Dalton end in a few days. It is the purpose of Capt. Barney to have the cars running through to Dalton by the first of January, but the chief engineer, Col. Le Hardy, states that at latest the road will be completed by the first of March.

—The Kalamazoo *Gazette* of Dec. 10th, says: The track of the Ionia & Lansing R. R. reached Portland on Wednesday of last week. Regular trains were to commence running yesterday between Lansing and Portland. The Ionia *Sentinel* says: "During the coming holidays our citizens will be enabled to visit Lansing via the new road."

The Directors of the Lansing & Ionia Railroad have chosen Charles Borland, of Ohio, President; S. D. Bingham, Secretary, and Hon. Cyrus Hewitt, Treasurer, both of Lansing.

—At a meeting of the Board of Directors of the Blue Ridge Railroad Company held in Columbia on Tuesday, Dec 7th., Gen. J. W. Harrison was unanimously re-elected President. The election of Secretary and Treasurer was postponed. Hon. James L. Orr, Gen. Wm. Gurney and Representative J. H. Jenks, with Gov. Scott, and the President as *ex officio* members, compose the Executive Committee.

—A number of holders of Tennessee bonds held a meeting to day to devise some plan of action, to induce the State to foreclose the roads which have defaulted on the payment of interest. About \$12,000,000 of bonds were represented. A committee was appointed, and a report will be made at an early day. — *Tribune*, Dec. 13.

—At a meeting of the Directors of the Buffalo, Corry and Pittsburgh Railroad, held here to-day, Horace F. Clark, Augustus Schell and Samuel F. Barger of New York, Daniel Torrance of Albany, and Amasa Stone, Jr., of Cleveland, Ohio, were elected Directors vice Jay Gould, James Fisk, Jr., L. D. Rucker, Frederick A. Lane and J. Bancroft, Davis resigned. M. P. Bemus was elected President, vice Jay Gould, resigned.

Origin of Railways.

The first *steam wagon* that we have any authentic knowledge of, was unintentionally started off in the world one dark night in the year 1784. A man named Murdoch, of Redwirth, in Cornwall, England, was experimenting with a machine of his own invention, when it took a notion to run off in the darkness along a lonely lane where a clergyman had gone to have a quiet walk. The parson suddenly heard a most unearthly noise, and to his horror beheld approaching him, what appeared to be something like the devil. He tried to run but his legs went down, and so he cried for help. However, the good man's fright was dispelled by the arrival of Murdoch in pursuit of the runaway machine, who satisfactorily explained to him the mystery of the "Evil One" on earth.

This reminds us of the countryman somewhere up the Hudson river when he saw the first steamboat passing. He ran home and told his wife to come and look at the devil going to Albany on an old saw mill.

The *Quarterly Review*, as late as 1823 took some pains to show that *steam wagons* were an useless invention. It then said:

"As to those who speculate on roadways generally throughout England and superseding all the canals, all the wagons, mails, and stage coaches, post chaises, and, in short, every other mode of conveyance, by land and by water, we deem them and their visionary schemes unworthy of notice. Every particular object must stand or fall by its own merits; and we are greatly mistaken if many of those which are already announced will not, when weighed in the balance, 'be found wanting.'"

The gross exaggeration of the locomotive steam engine may delude for a while, but must end in the mortification of those concerned."

Railways in the United States originated contemporaneously with those of England: Before the steam engine was applied to hauling cars in America, some vehicles on "made tracks" were drawn by horse power from stone quarries and coal mines to points of debarkation.

The first Railway operating in Yankee Land appears to have been about 4 miles in length, to carry ice from a small lake in Massachusetts down to the sea. Then, in the same State, there was a line terminating at the Quincy stone quarries with a self-acting inclined plane. After a year spent in its construction, that line was opened in the year 1827. And the following year, similar lines were made in Pennsylvania.

The first American railway of any great length, was from Charleston, South Carolina, to Augusta, Georgia—135 miles—commenced in 1830, and finished at a cost of \$1,336,615, in 1833.

Meanwhile, (in 1830) the "Hudson and Mohawk Railway," from Albany to Schenectady, was constructed and put in operation—and in October, 1831, it carried nearly 400 passengers a day.—*Official Railway News.*

ERIE AND PITTSBURG RAILROAD—It is proposed to extend the line of the Erie and Pittsburgh Railroad through from the vicinity of Albion to Erie, thus avoiding a yearly rent of \$40,000 to the Lake Shore road, and at the same time effecting a material contribution to the original length of the road—that of a thorough independent line from Erie to Pittsburgh. We learn from the *Girard Cosmopolite* that the survey in that vicinity is now going on. Mr. Dutton, recently connected with the Central Pacific survey is Chief Engineer. The indications are that the road will run south of Fairview and pass near the north line of Girard borough.

WHO RUN THE FIRST AMERICAN LOCOMOTIVE.—The following facts concerning the man who ran the first American made locomotive were furnished the *Rural Carolinian* by Mr. James M. Eason, himself an engineer and a builder of engines, and familiar with the history of the South Carolina Railway from the beginning:

N. W. Darrell, the subject of this sketch, was born on the 12th day of November, 1807. At an early age he became an apprentice to the late Thomas Dotterer, to learn the "engineer's trade." In the year 1830, the first American locomotive arrived in Charleston, and was named the "Best Friend." It was made at the West Point Foundry, New York, under contract with Mr. E. L. Miller, for the South Carolina canal and Railway Company (now represented by the South Carolina Railway Company.) Mr. Darrell, with others, was set to work putting the locomotive together, and he was the man who first opened the throttle valve of an American built locomotive. He was appointed to the responsible position of engineer of the "Best Friend," and in that position he continued until the arrival of the second locomotive, when he took charge of that.

For many years Mr. Darrell continued to run on the road; when, for his fidelity and experience, he was finally promoted to the charge of the machinery of the road as master machinist. He continued fulfilling the

duties of this position until the close of the war, and still continues in the company's employ. Mr. Darrell was noted for his devotedness to the interest of the road, and no day was a holiday for him, always anxious and feeling a large responsibility for the success of the road. As engineer of the "Best Friend" he was undoubtedly the first locomotive engineer in America, and is a noted man in connection with the introduction of the era of railways and locomotives into the United States, upon which so much of our prosperity, as a nation, depends.

RANSOME'S INDURATION PROCESS.—We learn from *Engineering* that Mr. Ransome's method of waterproofing walls by means of successive solutions of silicate of soda and chloride of calcium, which has been applied with so much success to many public and private buildings in England, is being used extensively in India to arrest the decay of many brick structures upon railways in that country. Among others it mentions the Waree Bunder Works, upon the Great Indian Peninsula Railway, which were constructed of such inferior material that a rapid deterioration speedily followed the construction of the works, and the crumbling of the bricks left no alternative apparent save that of rebuilding. It was, however, determined to experiment with Mr. Ransome's process, and accordingly, in 1868, it was extensively applied to the failing buildings, with the result of effectually stopping the decay, and of placing so fine and hard a surface upon the bricks that the material, which before could be crumbled by the touch, received a surface so hard as to resist the scratching from a steel point. In this manner extensive workshops and chimney shafts were, at an insignificant outlay, rescued from destruction, and rendered sound and durable.

ENGINEERING FUN.—A correspondent of the *London Times* recently stated that in order to test to the utmost the endurance of certain bridge-piers "a commission of three eminent engineers is to sit upon them," whereupon *Engineering* waxes jocose and says: "Surely this is a novel method of testing a bridge. The members of the commission are, no doubt men whose opinions alone have great weight, but still we should scarcely have thought that their sitting on the piers of the Holborn viaduct would have tested the endurance of the latter 'to the utmost.' Moreover, we are troubled as to how the test is to be applied. There are twelve columns and but three engineers, and the question arises whether these unfortunate gentlemen are to be quartered for the sake of obtaining an equally distributed load, or whether they are to squat fraternally on the summit of each column in succession."

THE SOURCES OF THE NILE.—Recent investigations have brought to light several ancient maps, on which the Nile is laid down as running from two large lakes which correspond in position with those discovered by African travelers, and supposed to be the sources of the great river. On the ancient manuscript globe at Venice, Lakes Tanjanika and Nyanza, are delineated and a volume printed in 1688 and entitled "Robert Morden's Geography," which gives similar information, has recently been discovered in Chicago, Ill. This geography, it is stated, contains a well executed map of Africa on which two extensive surfaces of water are conspicuously presented under the names of Lake Zaire and Lake Zaplan, both communicating with the Nile.

[Is it not strange that it should be discovered simultaneously at Venice and Chicago?—*Ed. Record.*]

THE PORTAGE LAKE AND LAKE SUPERIOR SHIP CANAL.—The rapid construction of the Portage Lake and Lake Superior Ship Canal this year, we may say, has been very remarkable, and had it not been for the strike of the men, which nearly suspended the work upon the canal for the greater part of two months, the waters of the two lakes would have mingled this fall. By the middle of May, which is about the time navigation will open on Lake Superior, Keweenaw point will have become an island. This company are the owners of over half the valuable iron lands of the Upper Peninsula, and the largest owners of copper lands in the world, and deserve great credit for their energy in pushing this great enterprise to so near completion this fall. It is one of the great undertakings of the Northwest.—*Houghton Gazette.*

NORTH CAROLINA—FINANCIAL CONDITION.—There is now unpaid past due interest matured on the 1st days of January, April, July and October, 1869, \$1,032,902. The present Revenue Law will not probably bring into the Treasury exceeding \$600,000. All of this will be needed for the support of the State Government until receipts of taxes for 1870 shall come in. Hence, there will be no funds for the payment of the interest to become due on the 1st days of January, July and October, 1870. Leaving out the Special Tax bonds, there will be thus due up to and including October 1st, 1870, \$2,065,804 of interest, which the State will have no means of paying in cash. The report makes no statement of the amount of the special tax bonds. Exclusive of the special tax bonds, the debt on the 1st October, 1869, amounted to \$29,815,645.

Receipts for the year 1869..... \$3,870,783
Disbursements..... 8,854,587

Cash on hand..... \$16,196
On 1st October, 1867, the debt was \$13,698,000
On 1st October, 1868, the debt was 19,209,945

Aside from indebtedness for interest an increase of debt in one year of \$10,606,000. Besides this statement of outstanding debt there is \$3,140,000 to which companies are entitled, but remaining in treasury uncalled for, and \$1,140,000 retained to secure payment of interest. These items will make total amount of debt, \$34,094,045. Against this amount the State holds \$27,724,600 of railroad stocks and bonds, but which at the present time return little or no income.

A Board of Engineers, consisting of Gen. C. B. Stuart, of New York; Gen. George B. McClellan, Gen. Q. A. Gilmore, Gen. H. G. Wright, Gen. John G. Foster, Gen. E. L. Viele, Gen. S. W. Serrell, Gen. W. C. Brown, John Houston, of Patterson, N. J., Civil Engineer, and J. C. Trautwine, of Philadelphia, Civil Engineer, visited the Mosely Iron Works, Hyde Park, Boston, a few days ago, to test a model iron railroad bridge constructed at the works. The model was of a tubular arch bridge, constructed on an exact scale, so as to represent a bridge 400 feet span. The model was tested by running over it at various rates of speed, five small cars containing a freight of 6,250 pounds, equal to 800 tons upon a bridge of 400 feet span. The engineers carefully noted the deflection at each trial, and will shortly give an official report of the trial. One side of the bridge was supported by an arch of the Mosely pattern, and the other by somewhat modified, according to plans by General Stuart. The two arches were further tested by piling bars of iron on

them separately. Besides those above mentioned there were present the presidents of many New England railroads, members of Boston city government, harbor commissioners, and a number of civil engineers.—*Railroad and Travelers' Journal.*

KRUPP, the great manufacturer of cannons in Prussia, who employs over seventeen thousand workmen, has acquired so much wealth that he intends putting up a family residence which is to surpass in magnificence any royal palace in Europe. The cost is estimated at seven millions of dollars. He has also purchased a fine domain for his only son.—*English Paper*

A CARD.

A Clergyman, while residing in South America as a missionary, discovered a safe and simple remedy for the cure of Nervous Weakness, Early Decay, Diseases of the Urinary and Seminal Organs, and the whole train of disorders brought on by baneful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope, to any one who needs it, *Free of Charge.*

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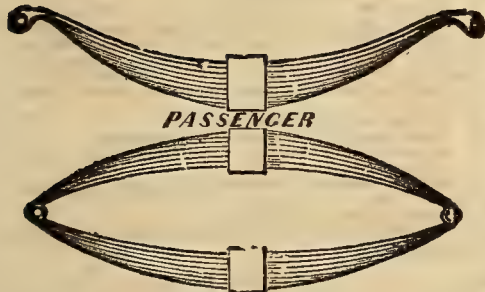
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RAILWAY SPRINGS.

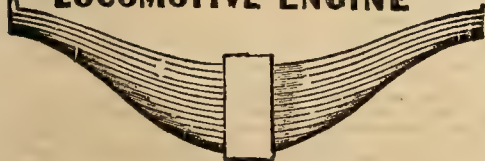
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Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS, (Sundays excepted.) Arrive Dayton 9.10 A. M.; Urbana, 10.29 A. M.; Galion, 12.57 P. M.; Mansfield, 1.40 P. M.; West Salem, 2.48 P. M. (Dine). (Sleeping Coaches through to New York); Akron, 4.21 P. M.; Ravenna, 5.05 P. M.; Meadville, 7.55 P. M. (Supper); Susquehanna, 8.10 A. M. (Breakfast); Turner's, 2.07 P. M. (Dine); New York, 4.10 P. M. Connects at Ravenna with Cleveland & Pittsburgh Railroad for Hudson and Cleveland; at Elmira for Williamsport and the South; at Binghamton for Cooperstown, Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS, daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.26 A. M.; Galion, 4.00 A. M.; Mansfield, 4.44 A. M.; West Salem, 5.56 A. M. (Bkfst); Akron, 7.33 A. M.; Ravenna, 8.20 A. M.; Meadville, 11.16 A. M. (Dine); Hornellsville, 6.19 P. M. (Supper); New York, 7.10 A. M. Connects at Mansfield with Pittsburgh, Ft. Wayne & Chicago Railway for Pittsburgh, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities.

New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through 860 Miles without Change.

Boston and New England Passengers with their Baggage, are transferred **FREE OF CHARGE** in New York.

The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever-changing landscapes subjects of continual admiration and interest.

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And Fare always as low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY.

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BOSTON,****WITH THE PRIVILEGE OF GOING TO
WASHINGTON****FREE!****NO CHANGE OF CARS**From Cincinnati to **Baltimore** and but ONE
or Columbus to **Baltimore** CHANGE to
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Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City.....	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Rich- mond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City.....	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....	6 45 A. M.	9 20 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati.

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et House Office, corner Vine and Baker streets, and at the
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Omnibuses call for passengers.**JANUARY 5th, 1868.****Cincinnati to St. Louis Without
Change of Cars.****Ohio & Mississippi Railroad,**For St. Louis, Cairo, Louisville, Evansville, St. Joseph
Jefferson City, and all points on the Lower Mis-
sissippi River, and on the the Illinois
Central Railroad.**TRAINS RUN AS FOLLOWS:**

	Morn. Ex.	Eve Exp.	Seymr Acc.
Leave CINCINNATI.....	7 40 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR.....	12 00 m.	2 00 a.m.	8 10 "
Leave	12 20 p.m.	2 10 "	
Arrive VINCENTES.....	5 15 "	6 35 "	
Leave	5 20 "	6 40 "	
Arrive ODIN.....	9 35 "	10 30 "	
Leave	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL.....	9 55 "	10 50 "	6 40 "
Arrive ST LOUIS.....	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O'H.,	6 10 a.m.	11 30 p.m.	12 00 m.

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CHICAGO,**Memphis, New Orleans, Springfield, Quincy
Keokuk, St. Joseph, Des Moines, OmahaAnd all Rail and River Towns and Cities in the West,
North west and South-west.ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS
WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail....	6 30 am	12 20 am
St. Louis and Springfield Express....	3 35 pm	8 20 am
St. Louis and Springfield Express....	10 35 pm	3 30 pm
Lawrenceburg Accommodation.....	10 00 am	2 35 pm
Lawrenceburg Accommodation.....	4 45 pm	8 05 am

*The 10.35 pm. train will leave Sundays, but not on Sat-
urdays.**VIA WHITEWATER VALLEY DIVISION.**

Chicago Mail.....	7 00 am	10 00 am
Chicago Express.....	6 30 pm	9 40 pm
Harrison Accommodation.....	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnet House
Office, corner of Third and Vine; River Office, corner of
Walnut Street and River; and at Depot, corner of Plum
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(Express); 2.30 P. M.; 11.30 P. M. night.

On Sundays, 4.30 A. M.; 11.30 P. M.

Leave Baltimore for North and West, 7.35 A. M.; 7.20
A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.45
P. M. (Express)SUNDAY TRAINS - Leave Philadelphia for Baltimore
at Washington at 4.15 A. M. and 11.00 P. M. Leave at
timore for Philadelphia at 8.25 P. M.Leave Philadelphia for Wilmington at 11.30 P. M. Leave
Wilmington for Philadelphia at 8.30 P. M.**The Old And Reliable Route.****Through to Pittsburg without Change.**The PITTSBURG, FORT WAYNE & CHICAGO RAIL-
ROAD, in connection with the Cincinnati, Hamilton &
Dayton, and Little Miami Railroads, still continue to trans-
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SHORT-LINE RAILROAD.****Time only 5 hours****Fare Only \$3.50—Transfer from Hotel or
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Louisville, Nashville, Memphis, New
Orleans, and all points South.**

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail.....	7.00 A. M.	2.30 P. M.
Evening Express.....	5.45 P. M.	9.10 P. M.
Walton Accommodation.....	4.10 P. M.	9.30 A. M.

The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
the Walton Accommodation, offer great inducements to the
citizens of Cincinnati and Covington who wish to pur-
chase country residences or small farms for gardening.
This train leaves late in the afternoon, and arrives early
next morning, giving all day to attend to business. For
further information as to routes, low fare, &c., please apply
at No. 1 Burnet House, or Depot, Covington, Ky.

SAM'L GILL, Gen'l Sup't. Louisville.

CENTRAL R. R. OF NEW-JERSEY.Passenger and Freight Depot in New York, foot of Lib-
erty st., connects at Hampton Junction with the Dela-
ware, Lackawanna and Western Railroad, and at Easton
with the Lehigh Valley Railroad, and its connections,
forming a direct line to Pittsburg and the West, without
change of cars.**ALLENTOWN LINE TO THE WEST.**Sixty miles and three hours saved by this line to Chicago,
Cincinnati, St. Louis, etc., with but one change of cars.
Silver Palace cars through from New York to Chicago.**FALL ARRANGEMENT.**Commencing August 30, 1869. Leave New York as
follows:6:55 a. m.—For Easton, Bethlehem, Mauch Chunk,
Williamsport, Wilkesbarre, Mahoney City, Tuckahanna,
&c.

7:15 a. m.—For Somerville.

8:30 a. m.—For Flemington, Junction, Stroudsburg,
Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.12 m.—For Flemington, Easton, Allentown, Mauch
Chunk, Wilkesbarre, Reading, Columbia, Lancaster,
Ephrata, Litz, Poitsville, Scranton, Harrisburg, &c.3:30 p. m.—For Easton, Allentown, Mauch Chunk
and Belvidere.

4:30 p. m.—For Somerville.

5:25 p. m.—For Somerville and Flemington.

6 p. m.—For Easton and intermediate stations.

7 p. m.—For Somerville.

7:20 p. m.—EMIGRANT—Stopping only at the princi-
pal stations.

9:00 p. m.—For Plainfield.

11:50 p. m.—For Plainfield, on Wednesdays and
Saturdays only.**FOR THE WEST.**9 a. m.—WESTERN EXPRESS, daily, (except Sundays,) for
Easton, Allentown, Harrisburg, and the West without
change of cars to Cincinnati or Chicago, and but one
change to St. Louis. Connects at Harrisburg for Erie and
the Oil Regions. Connects at Junction for Stroudsburg,
Water Gap, Scranton, &c. Connects at Phillipsburg for
Mauch Chunk, Wilkesbarre, &c.5 p. m.—CINCINNATI EXPRESS, daily (except Satur-
days) for Easton, Bethlehem, Allentown, Reading, Harris-
burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars
to Pittsburg and Chicago. Connects at Junction with
Delaware, Lackawanna and Western Railroad for all sta-
tions to Scranton. This train will be run to Easton on
Saturdays as a local train, stopping at principal stations.8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,
Allentown, Reading, Harrisburg, Pittsburg, and the West
—connects at Harrisburg with train for Williamsport, Erie,
&c.Sleeping cars through from Jersey City to Pittsburg
every evening.Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15,
8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:40, 2:40
3:40, 3:50, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:40, 6:25,
7:40, 7:20, 7:40, 8, 9, 9:00, 9 40 10:45, 11:50 p. m.Tickets for the West can be obtained at the office of the
Central Railroad of New Jersey, foot of Liberty st., N. Y.;
at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at
No. 10 Greenwich st., and at the principal hotels.R. E. RICKER, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

In these remarks, we assume, in fact, it is palpable, that the whole Chesapeake and Ohio Railroad will be made from *Richmond and Norfolk into Cincinnati*. We take that, as a fixed fact, and it is to this city, we think one of momentous consequence. This line will not be, as the "Southern Road" will be, a trunk which connects with the *whole Southern country*. But, it will be the next best thing. As a *through* road it will bring all Virginia and two-thirds of North Carolina to our doors, and in that country Cincinnati manufactures and

Cincinnati provisions will command the market. As a local road, it will have immense advantages. In the first place, West Virginia has no road in its territory, except at its extreme eastern side. Immense amounts of lumber, coal, iron, &c., are in that region to be developed, and if they are not needed for Cincinnati itself, they are needed for manufactures to be created in that country, which will then become populous, and furnish profitable traffic to the road. So also, the iron region of Southern Ohio and Eastern Kentucky will send off its products by this road. In that section are 32 furnaces, which make about 80,000 tons of pig iron, which has now to find its way to the river by expensive conveyance. So, the traffic between Portsmouth and Cincinnati will be very large. So also, the local traffic of Clermont, Brown and Adams counties, will be large. We think, therefore, that a fair view of this enterprise presents it as a profitable scheme.

Civil and Military Engineers of America.

CHARLES B. STUART, Esq., Civil Engineer, of New York city, and author of several interesting works, proposes to issue, early next year (January 1870) a work with the above title. The age in which we live, is essentially the "age of progress;" the past sixty years has made more "progress" in the civilizing arts of locomotion and transit than had been attained during the entire previous history of our race. The eminent men, who have stood foremost in the ranks of scientific civil engineering in this country have contributed no small share to the success of these wonderful enterprises, that have done, and are doing, more to subdue, civilize and Christianize the world, in a single half century than has or could be accomplished by two thousand years of earnest, enthusiastic and devoted preaching. The steamship, the railroad and the telegraph, encircling the globe, enabling men to "pass to and fro in the earth," and "flashing thought" with the speed of light "from the rising to the setting of the sun," must dispel ignorance and superstition, and let the light and glory of the civilization of Christianity into and through the dark places of the earth, until the "glorious effulgence of the Son of Righteousness" shall "cover the earth as the waters cover the great deep." These men, who have done so much in this great work, deserve a place in history, and Mr. Stuart proposes to give it to them. In his prospectus, he says:—

"This volume will contain about three hundred pages octavo, embellished with fine Portraits of Eminent Engineers, and illustrated by Engravings of some of the most important and original works constructed in America; among which will be the Aqueduct over the Genessee River, Erie Canal; first Railway Suspension Bridge; first American Suspension Bridge; Col. Ellet's "Basket

Ride" over Niagara River; Henry Clay's first Railway Ride; Viaducts of Baltimore and Ohio R. R.; Cincinnati Suspension Bridge; first American Steam Railway Train; first American Steamboat, 1788; East River Bridge, New York, and others of equal importance; and the following Biographies, viz:

Andrew Ellicott, first Surveyor-General of the U. S.; Gen. Joseph G. Swift, U. S. Engineer Corps, first Cadet of West Point Military Academy; James Geddes, Benjamin Wright, Canvass White, David S. Bates, and Nathan S. Roberts, first Engineers of Erie Canal; Gridley Bryant, Engineer of first American Railway; Major David Bates Douglas, first Engineer of Croton Water Works; Jonathan Knight, first Engineer of Baltimore and Ohio Railroad; Capt. John Childe, first Engineer of the Mobile and Ohio Railroad; Col. Charles Ellet, Jr., Engineer of first American Suspension Bridge; John A. Roebling, Engineer of the first Railway Suspension Bridge; Frederick Harbach, Chief Engineer of Mich. Southern, and other important Railroads; Col. William McRee, U. S. Engineer Corps, 1812, and Surveyor-General of Illinois, Arkansas, and Missouri.

We could have suggested a few more names, equally eminent and deserving, but as here is material enough for one volume, there will be no difficulty in obtaining all that is necessary to fill several more, which if there is a reasonable encouragement given to the present work, it is proposed, in the future, to issue.

FLOWERS.—Last year we sent to JAMES VICK, of Rochester, N. Y., and got a package of his flower seeds, selected from his elegantly illustrated Catalogue, an advertisement of which will be found in another column. There is no one thing that we did last year that gave so much and such innocent and lasting pleasure to all the members of our household as did that small package of "flower seeds." They were a "well spring of joy," that bubbled forth their sweets unalloyed from the early "spring time" until the "pinching frosts" of fall. We shall repeat the experiment this season, and have no fears of the result. Mr. VICK, by the way, is an old "typo," and perhaps his flowers looked brighter and smelled sweeter on that account. At any rate, we have no hesitancy in commending all our friends to send for a catalogue, and we know they will then send for the seeds, and receive a pleasure that will "leave us stinging behind."

NEW YORK OFFICIAL RAILWAY NEWS.—Nos. 1 and 2 of a paper bearing the above title have been received, containing interesting sketches of D. W. C. Littlejohn, President of the New York and Midland Railway, and Commodore Vanderbilt. Col. Hawkins is the editor and proprietor, and has issued a very creditable paper, full of items and news of interest to the railway public.

At Manistee, Michigan, twenty-one saw mills cut 167,500,000 feet of pine lumber during the past season.

The Cincinnati, Big Sandy & Virginia Railroad.

It is known to our readers that a company of wealthy capitalists in New York and Richmond, have subscribed \$10,000,000 for the completion of the Chesapeake & Ohio Railroad. They are men who have ample means to perform their contract, and the completion of that great line from the Ohio River to both Richmond and Norfolk, may be regarded as a certainty. This being the case it becomes a matter of the greatest interest, and indeed, of imperative necessity that Cincinnati should connect herself with this southeastern line, which goes to the best harbor on the Eastern Atlantic, and will carry her produce directly to the Southeastern States. Recently a spirited meeting was held at Portsmouth, at which delegates were present from the Board of Trade of this city, and from the counties of Clermont, Brown, Adams, Scioto and Lawrence. At this meeting it was resolved: 1st, That steps be immediately taken to secure the continuation of the Chesapeake & Ohio Railroad from a point opposite the Guyandotte river, through the river counties to Cincinnati; 2d, That, the charter name be the "Chesapeake & Cincinnati Railroad Company," and that it should pass through the river towns; and 3d, That all necessary steps should be taken to forward the undertaking. Should the work be constructed as planned, it will be almost exactly similar to the Hudson river road, diverging from the Ohio to Norfolk, as the Central road does from Albany to Buffalo. It is understood that the Chesapeake & Ohio as it descends the Kanawha is to branch and reach the Ohio at two points; one of which will be the mouth of Big Sandy, in reaching which the road must come near, or at the mouth of Guyandotte. Hence the road projected by the meeting at Portsmouth will be exactly on the proper line. It will be of such direct and immediate importance to Cincinnati, that we propose to give some reasons which ought to interest the business community in its favor and its early completion. The great want of all producing and manufacturing cities is a market. To get a great and permanent market for its products has been the great motives and argument for all our railroads, and it was particularly and powerfully the motive for action in the case of the Southern road. Almost an entire semi-circle on the southern side of Cincinnati, extending from the Baltimore & Ohio road to the Memphis road from Louisville, was without direct communication with Cincinnati. The Southern road when made will supply railroad communication with two thirds of that country, extending its eastern influence nearly as far as Wilmington N. C. The other third on the Southeastern Atlantic will be reached by the Chesapeake & Ohio. Thus these two roads will be, fortunately for Cincinnati, complements of each other. One will supplement the other in the Southern trade. The eastern end of the North Carolina railroad system is Morehead City, on the Atlantic, whence the North Carolina road goes 318 miles through the interior of the State. Hence we see that the Virginia line, from the Ohio to Richmond and Norfolk, will reach the whole eastern part of the South, and accomplish all for Cincinnati which the Southern Railway failed to do.

The local reasons for the Cincinnati & Chesapeake Road are as strong as the general ones, and have been felt for many years. Several years ago, when the railroad excitement prevailed in Ohio, a charter was obtained, and, we believe, a company was formed for a road running through the river counties to Portsmouth, intending to connect, in Eastern Ohio, with the Pittsburgh lines. This was about 1837 but the commercial depression which followed prevented any further steps from being taken.

But the great changes which have since taken place have induced the present and a much better scheme for the improvement and development of the great mineral country which lies between us and the Southern Alleghenies. Cincinnati has been and always must be the city of Western Virginia, supplying its wants and buying its products. Below Parkersburg there has been no line of communication except the Kanawha river, which is so large a part of the year low and innavigable for freights that this has been the main reason why immense tracts of coal, iron, and timber lands, owned by Eastern and Western capitalists have not been opened up to commerce and markets. This difficulty can not be removed without a trunk line of railroad and when that is made the effect on the trade of Cincinnati will be immediately felt.

Next to this in importance will be a new opening for our own iron region. It is true, that when the Ohio river is at a good stage of water, by means of the Scioto and iron railroads, the largest part of the iron can be carried off in that way; but one of the facilities, and almost necessities of a producing region is to have a uniform and permanent communication with the markets. A direct railroad from the iron district to Cincinnati would be of great advantage to both the producer and the market. So, also, of the intermediate counties of Adams, Brown, and Clermont. This is almost the only section of the State which has no railroad, and their vicinity to Cincinnati, and their natural advantages are such that they would undoubtedly furnish a large traffic to this city. Some persons say of districts near the city, that they must come to Cincinnati to market in any case. True, but how about future improvement? Look at the great contrast in improvements between a country intersected by railroads and one that is not. Even on the Hudson river, a country old and thickly populated, the making of a new railroad immediately causes new towns and new traffic to spring up. If there were a railroad through the river counties above here, there would be the same rapid growth that we have seen in other sections where railroads have been made. It would furnish, also a new outlet to citizens seeking the country, and a new competition for the supply of city markets.

While speaking of the deep interest felt at Ironton and Portsmouth in this road, we may also give a few facts in regard to that section. There are in the counties of Scioto, Lawrence, Gallia and the edge of Jackson 22 furnaces, whose trade would be wholly with Cincinnati, on this road, and there are 10 in Kentucky, near the Ohio and accessible to this road. These 32 furnaces make 60,000 tons of iron, all of which is marketed at Cincinnati. How much demand for merchandise and manufactured articles they may have will probably be best known by their actual consumption of agricultural products. In an inquiry made some years since, it was ascertained that 32 furnaces would consume 21,000 barrels of flour, 11,000 barrels of corn meal, 600,000 bushels of corn and 1,850,000 pounds of bacon. These facts simply indicate that the demand for manufactures and merchandise must be very large when we take into view also the large surrounding population. The effect of this railroad would be to enlarge the population; to develop towns, and to encourage other iron works. The whole result would be greatly favorable to Cincinnati, as all similar works. We have got to a point at which the inquiry is not whether Cincinnati shall grow, but whether, with its growth, it can find markets for the products of its great industrial development.

The report of the Board of Trade is in this respect rather startling. We already do find a market for manufactured products, to the value of \$104,000,000. But it is plain we

must find markets to the extent of double that. If the country within a hundred miles of us were increased to a population of one hundred to the square mile, we should find markets in our immediate vicinity; and this is one of the problems before us. Hence, we say that, even in a local point of view, this road will be most valuable and most profitable to Cincinnati. It goes just where there is no railroad, and it goes just where the country needs a stimulus.

The next question is, how we shall get this railroad. If such a route be really a good thing, in itself, it ought to command local capital enough (and by that we mean inclusive of Cincinnati) to grade and prepare the line—probably about half the entire cost. In that case, there is always foreign capital ready to commence and finish the work. A straight line from the mouth of Guyandotte to Cincinnati would be 125 miles; but of course the real line would be considerably longer in consequence of the great bend at Portsmouth. Yet the line might be constructed with no more than the average loss on railroad lines. The effect of going in five hours from Cincinnati to the mouth of Guyan, and four hours to Portsmouth, and of being within such easy reach of the great iron region we leave others to imagine. It will bring that whole country into such easy relations with Cincinnati as the upper Miami country now has, or as Albany has to New York. We make these suggestions because it seems to us one of the new things which Cincinnati has before it, and which may be in the future of immense advantage.—*Cincinnati Gazette*.

Another Feeder for the Cincinnati Southern Railway.

THE AUGUSTA AND HARTWELL RAILROAD.

[From the Anderson Intelligencer.]

We have the proceedings of a meeting held in Augusta last week, concerning the above named enterprise, with a great deal of interest. The Board of Directors met for the purpose of conferring with Northern capitalists, or rather to accept certain propositions, as it seems, from a number of gentlemen who are now engaged in constructing a railroad from Augusta to Port Royal, in this State. At any rate, the result of the meeting was the resignation of a majority of the Board of Directors and the election of the aforementioned capitalists to fill the vacancies. It is now contemplated to build the road from Augusta via Hartwell to the Rabun Gap, intersecting at the last named point with the Blue Ridge Railroad. With the latter completed, and also the Port Royal road finished, the new company would have the shortest and most direct connection, it is claimed, between the seaboard and the great West. The scheme is represented on paper as a most feasible one, and if the energy, perseverance and resources of these Northern capitalists come fully up to what is claimed for them, there is no doubt as to the ultimate completion of this scheme. It would be a great competing line with the roads in this State, including the Blue Ridge itself, unless the latter road discriminated against it in the matter of freight especially. But it is far too early to suggest what might be the case, in the event both roads are built. At present, we can only indicate the proposed route, and such intentions as are disclosed by the meeting referred to.

The Augusta and Hartwell Railroad was incorporated by the Legislature of Georgia last winter, and the plan now is to get the charter amended on the re-assembling of that

body next month, so as to allow the road to pass Hartwell and seek the Western connection. It is proposed to make a survey of the route at once; and the Chief Engineer of the Port Royal Railroad, who has been elected to fill the same position in this new corporation, is already engaged in organizing a corps of engineers to begin the survey, in accordance with the resolution adopted by the Directors.

Thus far the movement has assumed shape and consistency, and we may reasonably expect to hear it mentioned frequently by our friends and neighbors across the Savannah. Admitting, for the sake of argument, that the various connections now reaching towards Louisville, Cincinnati and Chicago will be made, it is our humble opinion that the route proposed by our Georgia friends will have decided advantages, and it may be work greatly to the injury of our own interests. We shall watch it with an unusual degree of interest, and from time to time give such information as will keep the inhabitants of this section thoroughly posted as to its progress.

Fort Wayne & Pacific Railroad.

[Special Dispatch from Indianapolis to Gazette.]

Articles of association were this morning filed with the Secretary of State, for a railroad from Fort Wayne westward to the State line, to be called the Fort Wayne & Pacific Railroad Company. Capital stock, \$3,000,000. The line will touch Rochester and Kesselsaer, and will be about 129 miles in length. Directors for the first year were chosen, as follows: R. S. Diggins, Isaac M. Stockhouse, William Sturgeon, William Ashton, John Comstock, George W. Lawrence, C. W. Edwards, Lott S. Bayless and S. N. Caldwell. R. S. Diggins was chosen President, and J. W. Stockhouse Secretary.

New Railroads in Minnesota.

The following interesting statements in regard to the railroads of Minnesota, are from the St. Paul Pioneer:

As the season for active operation in extending these different lines of road is about closing, it may be of interest to learn what progress has been made in railroad building in Minnesota during the past year. The year 1869 will be long remembered as one peculiarly unfavorable for railroad work. The spring was backward, and the greater portion of the summer and fall months marked with heavy rains. Yet, notwithstanding all the difficulties that contractors had to meet with, the season's work shows in the aggregate that 244 miles of road has been built and put in operation, divided among the different roads as follows:

St. Paul and Pacific (Main Line), to Chippewa River, 90 miles west of Crow River, total, 171 miles from St. Paul. The grading will be continued beyond Chippewa River until the weather compels a suspension of work.

As soon as practicable the work will be resumed next spring, and the road completed to its terminus at the western boundary of the State (some 75 miles) early in the season.

Lake Superior and Mississippi Road.—47 miles have been completed and put in running order during the year, making a total of 77 miles from St. Paul toward Duluth.

It is expected that the road will be completed through to the lakes and trains running regularly early in August next, in time to move the next harvest of wheat.

St. Paul and Sioux City road have extend-

ed their line of road from Mankato to Crystal Lake, a distance of fifteen miles, and in conjunction with the Milwaukee and St. Paul road have completed the new line across the Mississippi river and brought the cars from the western and southern portion of the State directly into the city, thus giving St. Paul an all-rail eastern connection.

The Southern Minnesota road have built their line from Ramsey, a point of junction with the Milwaukee and St. Paul road, to Wells, a distance of forty miles, to which freight and passenger trains are now running regularly.

Winona and St. Peter road.—This company have added twenty miles to their road during the present season, leaving only fifteen or eighteen more of road to build to complete the entire line to St. Peter.

St. Paul and Chicago road.—This new road has sprung into existence only during the present year, and has not made so much progress as the other railroads in Minnesota. The grading has been done and the iron nearly laid from St. Paul to Hastings. That portion of the road may be running in December.

Hastings and Dakota road is another new road. During this season it has been extended from Farmington, where it crosses the Milwaukee and St. Paul road to Lakeville, a distance of ten miles, and the cars are running regularly to that point.

This gives 794 miles of completed road in the State, divided among the different companies as follows:

St. Paul & Pacific (Main and Branch Line).....	213
Milwaukee & St. Paul (Min. Div.).....	131
Lake Superior & Mississippi.....	77
St. Paul & Sioux City.....	107
Winona & St. Peter.....	126
Southern Minnesota.....	90
Hastings & Dakota.....	30
St. Paul & Chicago.....	20

Total794

Railway Tariffs.

The rise, in quite a number of the main lines leading from the seaboard to the West, of the passenger and freight tariffs very naturally excites a good degree of surprise among business men. Taking place as it has, just at the time when the currency of the country has approximated nearer to the gold standard than it has since the first rise in gold at the early part of the war, it cannot but leave upon the mind the impression that this is the first turn of the screw of those railway speculators who have been too liberally "watering" railway shares, and the advance is designed to help pay dividends upon a vast amount of capital that is not represented by money, but has been created by issuing scrips or share dividends. The rise in passenger and freight transportation is unjust and unnecessary, so far as it is a legitimate business matter; it is a species of black-mail levied upon the business and traveling public, and which if perpetrated by any foreign power upon our commercial marine would bring the country to arms in one short week. It is a toll upon transportation and travel to sustain a great fraud and swindle, and when the matter is thoroughly understood by the public, it will be swept away by a whirlwind of popular indignation.

When Mr. Cornelius Vanderbilt first took possession of the New York Central line, a sagacious and public spirited citizen said to him that he had the power to prove himself one of the greatest benefactors to the public, by instituting a system that would in a few short

years, pay for the entire road at no cost to himself, or his fellow owners, and leave the road the property of the public, and to be run at the mere cost of operation. Mr. Vanderbilt, in reply, said: "If I can make such a good thing for the public by this system, I can make a still better thing for myself by keeping the road for myself." And he has kept it, adding twenty-three millions of dollars to the share capital,—with not a dollar paid for it,—and now the tariff for passengers and freight is advanced to pay dividends upon the enlarged capital. If the pernicious policy adopted by the Central Manager had been confined to that line, and the other lines had been worked upon a fair tariff, graduated upon the actual cost of the lines, Mr. Vanderbilt's policy would have been defeated; but his example was too inviting to the easy virtue of the managers of other lines, and so many of them followed in his footsteps. The share watering policy was followed by others, and to pay dividends upon the greatly increased amount of share capital, renders it necessary that the rates shall be increased; and so we have this great unnecessary burden upon the public. When shall this pernicious system of swindling stop? If the share capital can be doubled, legally, then it can be quadrupled, and the tariffs raised in the same proportion; and, they will be just as long as that patient ass the public, bends its willing back to the burden. As a matter of public policy, transportation should be reduced to the minimum of cost. If a person can be carried five hundred miles for five dollars, it is a great wrong that double that sum should be collected. We are reducing the cost of postage, of telegraphs and ocean passage, while the railway managers are increasing the cost of inland transportation on the national highways. There has got to be a radical change in this matter, and the sooner the public mind wills it the better for all concerned.—*American Railway Times*.

Wooden Railways.

Mr. C. W. Maberly, Chief Engineer of the Northern (Canada) Railway has made the following report to a Committee of the Canadian Legislature:

Toronto, Dec. 3, 1869.

SIR: In accordance with the request of your Committee, I have examined the systems of wooden rail tracks introduced respectively by Messrs. Foster and Hulbert, and beg to submit the following observations thereon:

Mr. Hulbert's system is the longitudinal maple rail, the grain of the wood running with the track; the rails are supported on crossed ties laid two feet apart; these ties are notched out, and the rails are fastened into the notches with wooden wedges. He submits two modifications of his principle.

1st. A plain longitudinal rail 4 inches by 7 inches, in 14 feet lengths, with square end joints, and simply held in their places in the ties by the wedges.

2d. A longitudinal rail 4 inches by 7 inches, two thicknesses in depth, breaking joint with square ends each joint being fastened together with two half inch bolts through from top to bottom of rail, and wedged in the ties in a similar manner to No. 1.

Mr. Foster claims an improvement on Hulbert's system inasmuch as he opposes the end grain of the wood to the action of the trains. He places maple blocks 3½ inches by 7 inches on end to form the rail. These blocks are held together between two longitudinal stringers, slightly notched out, to give a seat for the blocks to rest on; the stringers break joint, thus forming a continuous rail. The cross ties are notched out and the stringers wedged in

the same manner as in Mr. Hulbert's rail. A hardwood pin is driven through the stringers, between each joint of the blocks, in order to keep the blocks from shifting out of place.

The following is a comparative estimate of the cost of each system of wooden rail and of an iron T rail, 56 lbs. to the yard. I do not include the earthwork, ballast, or fencing, as I assume the grades and curves to be common to each. The estimate is based on a 5 feet 6 inch gauge, and the cross ties are included:

Iron rail (56 lbs.)	\$5,000 per mile.
Foster's wood rail.....	2,100 "
Hulbert's " No. 1.....	1,290 "
" " No. 2.....	1,420 "

An iron rail, of say 56 lbs. to the yard, should last in this climate with a fair traffic (such as is done by the Northern railway of Canada) about ten years, and the best hard wood rail with a similar traffic could not last over two years. A well constructed hard wood rail, if properly maintained, would probably last five years with a small traffic, and light engines not running over a speed of from 10 to 12 miles an hour.

The main points to be considered in comparing the different systems of wooden rail are simplicity in the number of parts, and convenience of construction and repair because the greater the number of parts, the greater is the liability to get out of repair, particularly in such a climate as Canada, when the sudden thaws and extreme frosts throw the rails out of line and out of level.

As to the comparative merit of the different systems under consideration, I am of opinion that Mr. Hulbert's single rail No. 1 (with an addition of a wood fish plate, notched and bolted at each point) is the most practicable, as it is the simplest and cheapest in construction, and can most easily be kept in repair.

I consider the wooden rail to be the best adapted for colonization roads through new tracts of country where sufficient money can not be obtained to build an iron road. A wooden railway would serve the purpose until a sufficient traffic could be established to warrant a more substantial track.

LAKE SUPERIOR AND MISSISSIPPI RAILROAD COMPANY.—The *Duluth Minnesotan* announces the arrival at that place of C. B. Newcombe, Esq., of Boston, to complete the contract for the great elevator to receive the wheat brought over the Lake Superior and Mississippi road, on its completion next fall. The building is to be of capacity to unload twenty cars an hour, and contains five receiving elevators and three shipping elevators—about 70,000 bushels per day. The organization of "The Union Improvement and Elevator Company" is as follows: President—G. C. Thomas, of Philadelphia, (of Jay Cooke & Co.); Vice President and Managing Director—C. B. Newcombe, of Boston; Secretary and Treasurer—C. S. Hinchman, of Philadelphia; Directors—G. C. Thomas, C. B. Newcombe, J. H. Clarke, (of Clarke & Co., bankers, Philadelphia), J. H. Seaver, of the same firm, R. H. Lamborn, Secretary and Treasurer of the Lake Superior and Mississippi Railroad Company, Gen. Geo. B. Sargent and Col. C. H. Graves, of Duluth.

BLACK PAINT FOR IRONWORK.—A varnish for ironwork can be made as follows: Obtain some good clean gas tar, and boil for four or five hours, until it runs as fine as water; then add one quart of turpentine to a gallon of tar, and boil another half hour. Apply hot.

Railroad Items.

—Hon. John F. Driggs, estimate the value of the products of the mines, quarries, forests, fisheries and salines of Northern Michigan at \$400,000,000. [We suppose this is meant for the total value for all time. Mr. D. had better have given the *annual value*, which would have afforded a reasonable view of the intrinsic value of the above products.]

—At the annual meeting of the Illinois Southeastern Railroad Company in Fairfield, on the 1st inst., the following gentlemen were elected directors for the ensuing year: Wm. H. Hanna, Wm. Wilson, D. L. McCawler, Chas. A. Beecher, Wm. H. Robinson, E. Bonham, C. C. Boggs, J. T. Fleming, R. P. Hanna, A. L. Johnson, Wm. G. Bowman, Chas. Carroll, Thos. S. Ridgeway. At a subsequent meeting of the directors, Thos. S. Ridgeway, was elected President; Chas. A. Beecher, Vice President; E. Bonham, Treasurer; C. C. Boggs, Secretary. This company has five miles completed from Shawneetown northward, and ten miles more graded. Most of the work in White County remains to be done. The grading is completed through Wayne County and about half way across Clay County, to Louisville, which is six miles north of Flora, where the Illinois and South eastern crosses the Ohio and Mississippi. The officers hope to have this part of the road, from Louisville to Fairfield, about 25 miles, ironed by the 1st of February.—*Am. R. R. Jour.*

—The Pensacola and Louisville road will in a few days be so far advanced as to connect with the Mobile and Montgomery road. There are now but fourteen miles to construct, and the road bed is ready for the iron, which is now being discharged. Mr. Fink and other railroad capitalists engaged in this enterprise are pushing rapidly to completion all connections necessary to give an air line to the bridge crossing the Ohio River at Louisville; and, this done, there will be an air line from Chicago to the west, and, in fact, the only harbor on the Gulf, where at a common depot the heaviest shipping can exchange freights with our railroads. The Selma and Gulf Railroad, which is to run from Selma, and connect with the road at its junction with the Mobile and Montgomery, a distance of 100 miles, is all under contract, and twenty-five miles will in a few days be in running order.

—The Baltimore & Ohio road is stimulating shipments of flour over its line by providing steam transportation for produce from Baltimore to European ports. The steamer Hooper which recently left Baltimore for Glasgow took about 4,500 barrels of flour at 2s. 9d. As the shippers here and at other points where the Baltimore & Ohio has agents were able to make their contracts to include transportation to Europe, they were easily inclined to favor this route. The Baltimore & Ohio Road has made it a part of its policy to provide steam transportation lines for the moving of the freight which it may carry to Baltimore. It has now under contract four new steamers of 3,000 tons burden, which, when completed, will run between Baltimore and Liverpool in connection with the Baltimore & Ohio Railroad.—*Western Railroad Gazette.*

—The Lawrence *Journal* says that the Depot of the Kansas Pacific at that place is filled almost to overflowing.

—Some very curious statistics were produced in England as to the amount of dead or non-paying weight carried by trains. In freight trains it was testified that of total load the freight itself formed but the thirty per cent., the cars, engine, and tender making up the other seventy per cent.; that is, for every ton of freight on which the road was paid, it carried two tons and a half free. Astonishing as this proposition must appear to those who have not examined the subject, it is exceeded in the case of passenger trains. The computation is that under the most favorable circumstances, for every passenger carried two tons of dead weight are transported, or that only five per cent. of the load pays. The probability is that trains in America are lighter, and the amount of dead weight carried is considerably less.—*Traveler's Journal*

—The Philadelphia and Reading Railroad has formally notified the Stock Exchange of its purpose to issue \$5,000,000 new convertible bonds, in the amounts and at the dates following: \$1,500,000 January, 1870, and \$1,000,000 July, 1870, convertible any time after issue; \$1,000,000 January, 1871, convertible in 1872; and \$1,500,000 1871 or 1872, as required, on giving 60 days' notice, not convertible until 1872. Of these bonds, \$2,000,000 have been taken at par by McCalmont Brothers & Co., of London, and the remainder also at par, by McKean, Borie & Co., of Philadelphia. This new issue is to provide for the building of new branch roads, equipments, etc.—*Am. R. R. Jour.*

—The most remarkable railroad in Germany and Europe is the new Black Forest road, which will be completed within four years. Between Hornberg and St. George, situated 2,870 feet above the level of the sea, and but four miles distant from Hornberg, the railroad ascends nearly 2,000 feet, and passes through 27,000 feet of tunnels. Even though sand feet of the latter have been completed during the last two years. The truly Cyclopean work on the road is progressing rapidly, and attracting thousands of visitors, who flock together from all parts of Southern Germany and Switzerland.

—It is proposed to extend the line of the Erie and Pittsburgh Railroad through from the vicinity of Albion to Erie, thus avoiding a yearly rent of \$40,000 to the Lake Shore road, and at the same time effecting a material contribution to the original length of the road—that of a thorough independent line from Erie to Pittsburgh. We learn from the *Girard Cosmopolite* that the survey in that vicinity is now going on. Mr. Dutton, recently connected with the Central Pacific survey, is Chief Engineer. The indications are that the road will run south of Fairview and pass near the north line of Girard borough.

—The Leavenworth *Commercial*, in speaking of the construction of the Leavenworth, Lawrence & Galveston Railroad says that: "The track is being laid one mile per day. The road from Lawrence is first-class—comparatively an air line with easy grades, good sized ties, heavy rails, powerful locomotives, splendid passenger coaches, and substantial freight cars. The officers evidently possess the requisite knowledge to manage and operate a railroad."

—The North Missouri earned in the month of November \$248,438.68, this is an increase of \$112,324.00 over the earnings of the November of 1868.

—The following gentlemen have been elected directors of the South and North Alabama Railroad Company: F. M. Gilmer, Jr., H. P. Lee, E. C. Hannon, Josiah Morris, Bolling Hall, Edmund Harrison, W. G. Farley, J. P. Stow, W. J. Bibb, Thos. G. Glasscock, Luke Pryor, J. T. Tanner, Z. Freeman. E. M. Gilmer was elected President.

—The Sioux City & Pacific Railroad have constructed a transfer boat, capable of transferring a train of five cars at a time between Omaha and Council Bluffs. It is said to be very strongly built and completely encased in boiler iron, so as to be able to cut her way through the ice, and thus ensure prompt transit at all seasons.

—The Burlington and Missouri River Railroad is completed and will be running on January 1. The road connects with Omaha and the Union Pacific, and forms a direct line to the Pennsylvania Central and the Atlantic coast in competition with the Rock Island and Chicago and Northwestern roads.

—Bills have been introduced into the Alabama Legislature giving the State's endorsement on \$3,000,000 of the bonds of the Chattanooga and Alabama Railroad, \$2,000,000 of Mobile and Montgomery Railroad, \$2,000,000 of the North and South Alabama Railroad.

—The section of the Kansas City & Santa Fe Railroad between Olathe and Ottawa is to be built by D. L. Wells & Co., who contract to complete it by the 1st of July. This will unite the Fort Scott road and the Lawrence & Galveston road.

—The Raleigh (N. C.) *Sentinel* says that the grading of the Williamstown & Tarboro' Railroad began the first day of June last, and is now completed except about two miles. The iron for the whole track, from England, is lying at Portsmouth, awaiting transportation.

—It is reported that F. M. Mahon, recently elected President of the Memphis & Little Rock Railroad, has received a dispatch from parties in New York, stating that the money was ready to complete the road at once, if the court sustained the new Board of Directors.

—The Fort Scott *Monitor* says that it is the intention of the Missouri River, Fort Scott & Gulf Railroad to complete their track to Columbus by the end of next March, and if the weather is favorable they will probably succeed.

—The Clarksville *Standard* says the people of Northern Texas are coming forward nobly with subscriptions of land to the Memphis & El Paso Railroad.

—The Leavenworth, Lawrence & Galveston Company has advertised for 250,000 ties, which indicates that it intends to push the road on through to the Indian Territory, or farther.

—The track of the Leavenworth, Lawrence & Galveston Railroad is laid as far as Middle Creek, ten miles south of Ottawa. It is to be completed to Garnett within a month.

—The earnings of the Milwaukee & St. Paul Railroad for the month of November, was \$801,163, being an increase over the corresponding month of last year of \$244,246.

—Fort Scott is now 24 hours from St. Louis and 29 hours from Chicago.

The Condition of Business.

[From the Financial Chronicle.]

If all is to be believed that we have lately heard respecting the condition of business, there is little occasion for closing the year with joyous satisfaction. Before, however, giving full credence to the current complaints and forebodings of a section of the press, it may be well to call to mind that the war has left a strong dash of the bilious in our national mood, which must ever and anon find vent and expression in an outburst of croaking. The costly wars of Great Britain transformed "merrie England" into a nation of grumblers; and we need not be surprised if our own struggles should tone down our proverbial self-satisfaction into a modified form of discontent.

Because a few failures have recently occurred, we are told that business is in an essentially unsound condition, that many of our merchants have lost or wasted their capital, and that we are bordering on general bankruptcy and panic. Although this cry of "wolf" has become so common that it should be no longer heeded, there are a few timid people who give ear to it and are alarmed into a very unreasonable caution; and for the satisfaction of such, it may be well to inquire somewhat into this alleged danger. In the first place, the recent failures have been no more in number and have really been less in importance than usually occur at this period of the year—a season when a large amount of mercantile obligations always fall due, and a majority of the suspensions have been those of small firms, whose combined liabilities are scarcely equal to those of a single first-class house. And, in the next place, there is this peculiarity in the affairs of the larger suspension; the occasion is traceable mainly to causes other than legitimate business losses. Most of the failures among the dry goods commission merchants have arisen from the firms assuming the responsibilities of manufacturers, and taking the risks of unprofitable mill properties. In other branches of the wholesale business the insolvencies have been induced, in nearly every instance, by the firms having assumed risks or engaged in speculations which have no proper connection with their business. Much as has been said of the disaster which must accrue from the decline in prices, yet it is a fact that although values have been steadily falling, for the last three years, and in the case of breadstuffs have fallen to ante-war figures, yet scarcely a single instance can be quoted of a failure from this cause; nor is there anything tangible to show that, as a rule, the capital or merchants has thereby been seriously impaired. Where men of business have been tempted to employ their capital in oil speculations, in stock ventures, or in the gambling operations of the Gold Room, they have in most cases lost credit, and in too many cases capital also; and these are the parties whose names fill up the late record of failures.

Upon the whole, there is really much in the present condition of the country to bespeak satisfaction and confidence. During the war, and for two years succeeding, we experienced the evils of inflation in its worst forms. That was a period of extreme danger to the country. A similar condition of affairs prevailed in Great Britain after the conclusion of her Continental and American wars. There, however, the inflation attained such a pitch as to burst in a ruinous panic, sweeping away hundreds of banks, prostrating credit universally, and creating general bankruptcy, with a sudden fall of about 50 per cent in prices.

Very fortunately, with us the inflation of the currency and of prices has culminated without any such catastrophe. The reaction has come by a natural process. The intelligence of the people discovered the danger of the situation, and caution gradually succeeded imprudent speculation; credits were carefully watched, and traders were consequently spared the risk of carrying too heavy stocks upon declining markets. In view of this steady and natural process of reaction from inflation, we are at a loss to conceive of the grounds for the vague but settled conviction, now so general that the financial and commercial derangements growing out of the war must sooner or later issue in general panic and insolvency. There could be no better guarantee against such a catastrophe than the universal caution which now prevails. The sentiment of the country is essentially conservative. An expansion of the currency would be so unpopular to the people at large that there are few members of Congress who have the daring to propose such a measure; no enterprises can be floated which do not present good evidence of soundness; Wall street speculators find it far more difficult to promote an advance in stocks than a decline; and upon the question of specie payments there is a marked conversion of public opinion in favor of an early adoption of the measure. These are plain indications of a wholesome commercial sentiment, such as usually precedes public prosperity, and can not, with any congruity, be regarded as the forerunner of panic.

A fair survey of the condition of the country appears to us to warrant the expectation of a steady, prosperous business in 1870. The abundant crops of this year should certainly lay the basis of an improved trade. Our grain crops have been such as to reduce the prices of flour to about the figures of 1860. The wool crop has been so abundant as to reduce the value of that staple to about ante-war prices. The production of coal is so ample that, in spite of artificial manipulation of the retail market, the late high prices can be no longer maintained; while the decline in gold naturally contributes to a generally lower scale of prices. We thus have a condition of affairs calculated to lower, by a natural process, the general costs of living; which supplies one of the chief pre-requisites to a reduction in the scale of wages, the high rates of which are still the bane of our industrial progress.

These tendencies toward a natural decline in prices may not appear very flattering to surface observers—indeed, to the inverted vision of some they afford the basis of prophecies of disaster—but they are really the condition precedent to a sounder condition of industry and trade, and are evidence of a national gain in production over consumption, and of a consequent recovery of stocks of products in the various markets.

The great value of the cotton crop must prove an important stimulus to business. The exports of cotton are likely to realize about \$170,000,000 in gold; and it may be further shown, upon that basis that the whole crop will realize for the South about \$280,000,000 in gold. The immense value of this one crop, far exceeding all precedent, may be reasonably expected to induce an unusually active business between the North and the South. The West has been somewhat backward in its settlements with the East, owing partly to the low prices realized on its crops, and partly to the holding back of produce. There is, however,

still a large amount of grain in the hands of farmers, fully guaranteeing the ability of that section to meet its engagements and to buy moderately for the Spring trade.

There is reason to hope that Congress may adopt some measures calculated to lighten the public burdens upon commerce. Some judicious modification in the tariff may apparently be expected, especially in the way of lightening the duties on the raw material of our manufactures. A partial alleviation of the internal revenue taxes, especially of the enormous income tax, seems also to be quite probable, the effect of which upon business would be immediately advantageous.

Upon the whole, then, if we may not look upon 1870 with sanguine expectations, neither may we view it with apprehension. If the prospect holds out no great promise, neither is it freighted with any special danger; and, perhaps, the mercantile community needs less to be cautioned than encouraged.

COUNTY AND MUNICIPAL INDEBTEDNESS.—Some time since a correspondent of the *Missouri Democrat* telegraphed to that paper that the indebtedness of the several counties of Illinois would amount, in the aggregate, to about \$100,000,000, but those best acquainted with the matter placed no confidence in the report. By reports received at the Auditor's office from all the counties in the State, with the exception of Lawrence and Shelby, not reported, it is ascertained that the total indebtedness of the several counties, cities and towns, amounts to \$30,000,000. The subscriptions to railroads, the bonds for which have not been issued, amount to about \$1,000,000 more; making the entire amount \$36,000,000 in round numbers. These reports are all official, with the exception of Cook county, City of Chicago and Chicago Park loans, estimated at \$11,000,000, as reported in the Chicago papers.

THE FINANCES OF CALIFORNIA.—The annual report of the State Comptroller of California shows that the receipts of the fiscal year ending June 30, 1869, were \$2,417,699. The expenditures during the same period were \$3,180,725. The apparent excess of expenditures over receipts was occasioned by large amounts transferred to counties from the Swamp Land Fund, under an act of the Legislature. The Comptroller thinks a tax of \$1 on each \$100 of assessed value will be ample for all State purposes during the next two fiscal years. The State debt on the 1st of November, 1869, stood as follows: Funded and bearing interest, \$4,068,000; outstanding warrants on the Capitol Fund, \$270,879.93; warrants on Military Fund, \$3,571.10; total debt, \$4,342,451.03. Compared with the figures of two years ago, this statement shows the gratifying reduction of \$1,078,500.

Edward Crane, a member of the Massachusetts Legislature, has submitted an extraordinary project to that body, full of genuine Yankee ingenuity, that in its results is to far surpass the "Philosopher's Stone." He says: "By the administration of these several trusts, the State will become the owner, within nineteen years, of every mile of railway within her own territory and of the lines that will connect her with Eastern, Western and Southern lines, and that, too without the expenditure of a dollar on her part." The amount of capital thus proposed to be converted is over \$100,000,000.

CINCINNATI, - - THURSDAY, JANUARY 6, 1870.

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Whatever they may think of these things

1. It is said and urged by those who have fanciful ideas of state rights, and who, we are afraid, are really opposed to any closer connections between the states and people—that to give a foreign corporation (as they call it), a right of way through a state, and the right to use it, is in some way an infringement on state rights. We should like to know how? What is the grant of a right of way to make and run a railroad? What is it? It is nothing but a right of property and business. It is only a right to make and own a rail-

3. None can dispute that a trunk line of railroad through Kentucky, between Cincinnati and the South would be of immense advantage to the counties, through which it will pass That is indisputable. Well, if that be so, has the Kentucky Legislature any right to refuse those people a right of way for a railroad which they can have made at once by the money of other people? If such a principle was established it would make our legislatures nothing but despots, legislating only for a part of the people, and deliberately depriving minorities of all rights and benefits! We can not imagine such a thing. If the only people in Kentucky to be benefited by this road, were a dozen counties, we think,

that on every principle of equal and just legislation, they should have whatever they ask, not injurious to others.

4. But it is easy to prove, that in fact more than half of Kentucky is to be directly benefited by the Southern road. A breadth of full forty miles is benefited by any railroad which passes through a country. But in this case, all of the country east of the line wherein it goes, must be benefited, for they have now no outlet but the Ohio river, not even to Middle and Southern Kentucky, so that any railroad from Cincinnati south must benefit them; besides the certainty that branches will be made from the trunk line to South-eastern Kentucky.

Next, we come to the fact, that the Lebanon branch line will intersect this road, and bring southern business to the counties on it. Next we have the counties on the Cumberland river which desire a road to Cincinnati, and which can get one best by a branch to the Southern road, if that were made.

We say then, as before, that in sober truth that a majority of the people of Kentucky have an interest in the Southern road, and if the right of way be not granted, and that too without burdens, it will be the most extraordinary instance of folly on record. It will be the example of a people voluntarily refusing immense benefits, from merely fanciful ideas or jealous feelings. The latter ought to have no existence, for all the causes of jealousy or hostility have ceased to exist. Louisville is prosperous. There are no slaves to run away. There is profound peace, and good feelings, and good neighborhood ought to prevail among all the people of this country.

The Ohio Penitentiary earned during the year ending Oct. 31, 1869:

By mechanical labor.....\$175,663.06
Expenses during same period..... 143,635.83

Net profit of convict labor..... \$32,027.23

The people of the great State of Ohio have put into their treasury the above sum as their share of the net profits of crime! To what extent the above exhibit demoralized mechanical labor outside the Penitentiary we are not informed. A few contractors, doubtless made a large per cent. on the above amount, while honest labor outside of the Penitentiary was cheated of its just reward. Can not some system of Prison reform be suggested that will take convict labor out of competition with honest toil? It would not present such an objectionable feature, if a fair price per diem was paid for this labor. The large surplus that would accrue from better wages, might, or a per cent. of it, be used as a sort of reward for diligence and good behavior, to start the convict afresh in the world, and perhaps save him from new temptations and crime.

Presentation.

New Year's Day the office of the Great Broad Gauge Route was the scene of a gathering of the ticket and passenger agents to present Maj. W. B. Shattuc, Gen'l Southern Ag't of the Erie R. R., with a token of the regard and good feeling of the many friends there assembled. The present was a heavy gold chain of unique and handsome pattern of Etruscan gold, with an onyx seal to engrave the name or device of the owner. Mr. F. M. Thomas presented the gift with the following remarks:

"MR. SHATTUC—On behalf of the passenger and ticket agents of the Erie and Atlantic and Great Western Railway, in your employ, now present, as well as those absent, allow me to present you with this chain, as a slight token of our regard for you as a friend and employer. May the links that now bind us together as friends be more durable than those composing this chain—and when, in after years, as the relation which you now hold to us will in all probability be changed, may you look back upon some happy moments while in connection with us as employes of the great Broad Gauge Route."

The arrangements were so perfect that the Major was completely surprised, and though he has generally been a good talker, and able to hold his own in any crowd, though at one time the youngest Gen'l Ticket Agent in the United States, this time his feelings were too much for him, and he could only express his appreciation in a hearty "thank you."

The affair was one of the pleasantest of the season, and will long be remembered by those participating in it.

The Chesapeake & Ohio Railroad.—Its Advantageous Financial Position.

It is a promising feature of the Chesapeake and Ohio Enterprise that it will be burdened with a debt charge very light in contrast with the more northerly lines; and comparatively insignificant, as compared with the cost of the property and its earning power. The very favorable terms upon which the Company acquires the ownership of all work done by the State—the cost of which exceeds \$5,000,000, gold value—enables it to enter the field with a most valuable franchise, an exceedingly profitable line of road, and inconsiderable obligations. The line has been thus far operated for about 50 per cent. of the receipts; and with the exception of some of the years covered by the war, paid out of its earnings a dividend upon its capital, in addition to the regular interest upon its bonded debt. There are few, if any, trunk lines in the country which will command the same traffic; none where the elements of cheap operation are more accessible, and none where the revenues are more certain.

The subscriptions to the capital stock of the company, both by the State and the several Counties through which the line passes, and by private parties, have enabled them to keep their funded debt within the most moderate limits.

The subjoined statement shows the condition of the Company's Funded and Floating Debt on the 30th September, together with an

estimate of its condition after the road is completed, and the value of the same, exclusive of franchises, right of way, &c:

PROPERTY AND ASSETS.

Cost of road and buildings between Richmond and White Sulphur Springs.....	\$9,027,338
Equipments, &c.....	660,641
Real Estate in Richmond.....	34,693
Real Estate in Blue Ridge Tunnel.....	1,500,000
Work between White Sulphur Springs and Big Sandy.....	635,776
Stocks, bonds and accounts.....	97,500

Cost of road, &c, mainly before the war, in gold.....	\$11,955,948
Present value of the property, at least.....	\$15,000,000

FUNDED AND FLOATING DEBT.

Bonds.....	\$1,799,500
Less investment in sinking fund....	110,743
1,688,757	
Unfunded debt, temporary loans, tolls, &c....	677,160
Temporary obligations.....	1,053,793
	\$3,419,900
Deduct debts due the Co. and cash on hand.....	131,206
Total funded and floating debt, Sep. 30th, 1869.....	\$3,288,692

EXTENSION TO THE OHIO.

Arrangements have been concluded during the past year, whereby, through the co-operation of prominent and influential New York Capitalists, the *Chesapeake and Ohio Company* will prosecute the work upon the unfinished portion of the line with increased vigor. That part of the road between the Kanawha coal fields and the western terminus on the Ohio River, (seventy-five miles) being in good part graded, can be completed and put in running order, within the current year. This will give an additional stimulus to the connecting lines now constructing in Central Kentucky and Ohio. The heavier items of the work on the New River section, between Kanawha and White Sulphur Springs, can, meantime, be put under contract; and by the close of 1871, if not sooner, the whole line to the Ohio be brought into full operation.

The condition of the Company's finances, as reflected in the above table, is usually favorable for the prompt completion of the work, and for the economical and profitable working of the road after completion.

Growth and Influence of Railroads.

Of the value and advantages of railroads in a community there is no dispute. Something of their influence may be discerned in the unparalleled growth of the Western States, and in the prodigious efforts which are being made to extend their railroad system. It is no longer deemed necessary to wait for a particular district to be settled before running railroads through it; the roads are first built, and the region more easily settled thereby. The roads create the traffic which is afterward to yield the profits of their enterprise. This policy has proved so successful, that the railroads beyond the Mississippi are being pushed ahead of the immigration, and, at the

present ratio of increase, the Western States will have more miles of railroad in proportion to their population, than any other part of the country.

Classifying the States into five groups, viz: New England, Middle, Western, Southern and Pacific States, we have the following instructive statistics:

From the close of 1865 to the close of 1868, the increase in railroad mileage in the six New England states was 175 miles; in the six Middle states, 226 miles; in the ten Southern states, 1,061 miles; in the ten Western states, 4,042 miles; and in the three Pacific states, 656 miles. Massachusetts had the greatest ratio to its area, or 1 mile of railroad to 5.47 of area; Connecticut 1 to 7.34; New Jersey 1 to 8.55; New York 1 to 14.12; Pennsylvania 1 to 10.46; Ohio 1 to 11.76; Indiana 1 to 13; Illinois 1 to 16.11; and even South Carolina 1 to 27.31 square miles; while Virginia had only 1 to 27.94 of area, and Kentucky 1 to 46.25 miles. Virginia and Kentucky, two of the most favored of nature, are deficient in railroad mileage as compared with area, far beyond their natural position. A glance at the map will show that there is no equal area of fertile territory east of the Mississippi in which the railroads are so deficient as that between the Baltimore and Ohio, and the East Tennessee lines.

The district (26 counties,) tributary to the Chesapeake and Ohio line contained, by the census of 1860, a population of 321,400. Counting the region traversed by the extensions to Lexington and Cincinnati, it is capable of supporting a population of three millions.

When we remember that the Virginia territory received the earliest European settlements on the North American continent; and that for half a century Virginia remained the most populous, wealthy and influential State of the Union—her relative deficiency in works of internal improvement, at this day, is apparent. If we consider also her unrivaled harbors and seaboard lines, her varied and fertile soil and mineral treasures, her genial climate and perennial streams, whereon the ice formation seldom exceeds an inch in thickness, and where the snow-fall is so slight as to present no obstacle to travel and transportation—her opportunities for rapid and prosperous development and for profitable railroad enterprise are without parallel in the country.

The Oppressive Tax Upon East and West Traffic.

We have thus far considered the amount of freight seeking transportation from the west to the east, and from the east to the west, according to its present proportions. It is necessary to rise to the full comprehension of the fact that this interchange of products is merely in its infancy! Statistics show that production keeps pace with the increase of railroads, but in a constantly increasing ratio. In the State of New York, during the ten years from 1858 to 1868, the increase in equivalent single track was 79 per cent, and the increase in tonnage was 345 per cent, while in the Western states the railroad mileage has doubled, the tonnage thereon has more than quadrupled.

Both these processes are now at work on an unexampled scale in our country, and it would be hazardous to set the dimensions of the east and west trade ten years hence. It

is certain that then, as now, commerce will be seeking new channels. The existing ones are already overtaxed, and keep the rates of transportation at the maximum limit. The amount of produce shipped, and the corresponding amounts of merchandise consumed by the West are already depressed and fettered by the high charges imposed upon their transportation. With every reduction of rates the amount shipped increases in even greater proportion. Although the average of railroad transportation charges has been steadily decreasing, the impression is general at the West that they are still far too high. This conviction is seeking expression in the efforts to build an additional canal round Niagara Falls, and to ship breadstuffs down the Mississippi, and by way of the Gulf, to Europe. While the former project is embarrassed by the shortness of the season of navigation, it is said that this latter experiment is confronted by a natural objection, in the liability of the grain and flour to damage while passing through the warm waters of the tropics. A new outlet to the Atlantic has become a positive necessity of the time, and this is afforded, under the most favorable conditions, by the route of the C. & O. R. R.

The capital and debt of the four great lines between the Atlantic and the Mississippi amounts to more than \$500,000,000. Two of these lines, having together about one thousand miles of main line within the limits of the state of New York, are represented by a capital and debt charge of \$300,000,000. So of their extensions in Ohio and westward, the inflation of their stock and debt accounts has gone far beyond the cost and value of the lines. To pay dividends and interest on these "watered" liabilities amounts to an onerous tax upon the traffic passing over them. So great is the power of these corporations, that it would be difficult, and perhaps impossible, to construct rival lines through either Maryland, Pennsylvania, or New York, even if a feasible route could be found. The farmers of the Western, and the consumers of the New England States, are taxed to contribute the dividends upon this enormous amount of capital. In other words the internal commerce of the country has risen to such proportions, that it confers a value in productive power upon East and West trunk lines of railroad, far beyond their original cost. The rich and powerful companies who now control the other available avenues, will not, of course, permit, without strenuous opposition, new and competing lines to be built up within the limits of the three States above named. Recourse must therefore be had to the line passing through Virginia, even if it was a less favorable route. Fortunately, however, this line is the one which combines the greatest advantages for railroad construction and operation.

HOOSAC TUNNEL—Work on the Hoosac Tunnel is going forward rapidly. In November the central shaft was sunk 30 feet, but 261 feet remained unfinished, which at this rate of progress will be finished in August next. The machine drills are now working on the east and west faces, and during the month of November made an average progress of ten feet per day, or 262 feet for the month. After August the machines will work on four faces, and with a progress of twenty feet a day, or 6,140 feet a year, will complete the whole in 1872.

—Tea is said to have been discovered about the year A. D. 315.

San Joaquin and Tulare Railroad.

The San Joaquin and Tulare Valley Railroad Company (says the San Francisco *Bulletin*) was originally organized to build a railroad from Stockton to Visalia, and thence ultimately to the Mohave. The Company now proposes a modification of this plan. It will build the road directly from Visalia to Los Angeles, and thence to San Bernardino and the line of the Thirty-fifth parallel railroad, on condition of receiving aid from the various counties on the route to the aggregate of \$4,000,000. Of this amount, two million would fall to the share of Los Angeles and San Bernardino, to be met by an issue of bonds having twelve years to run, the same to be given to the Company in equal installments on each completed ten miles of road. Bills will be presented to the Legislature authorizing the counties interested to issue bonds for the purpose mentioned, conditional upon the approval of the legal voters at special elections. Should the project carry, the company would begin the work early in the spring, at Stockton and Los Angeles, working both ways. The distance between Stockton and San Bernardino, by way of Visalia and Los Angeles, is about 430 miles; from San Francisco through connection with the Western Pacific, about 510 miles.

The country to be traversed south of Stockton includes a large proportion of the most eligibly situated and fertile land in the State, which would attract a large population if accessible by rail and opened to a good market. Of course the propriety of extending aid to a railroad in the way proposed is a matter for local consideration and determination. The aid asked is at the rate of about \$10,000 a mile in bonds. The counties less wealthy than Los Angeles and San Bernardino would not be asked to issue bonds, we are told, before the road was built through their territory. The scheme is very favorably regarded by the people of Los Angeles, who are especially prompted to do something that will stimulate the development of their locality by the rivalry with San Diego and its railway project on another line—*Arizona Miner*.

Railroads in the United States.

[From the American R. R. Journal.]

It is difficult with all our accumulated facilities to reach every part of our vast country, and ascertain the exact condition of the railroad interest in each State or section. And during the last year the development of this great interest of the nation has been so immense and so rapid, as to make it impossible to keep pace with its growth. The construction of the Pacific Railroads, indeed has forced all parts of the country to railroad extension, and hence we find that the extent of mileage constructed, and improvement on old lines has been greater in 1869 than in any former year of our railroad history. When we state that there has been brought into use during the year no less than 6,588.37 miles of new road, this fact is fully proven. This is more than one eighth part of the total mileage in the country, the other seven-eighths having taken 40 years of varied fortune to establish. Yet still we are progressing, and the year now commencing, promises to eclipse even the year just closed. We have now in use an estimated mileage of 48,860.55 miles, and also projected and in progress a mileage of 27,505.83 miles. Take all the world without the United States, and this is not equaled.

Truly we are progressive, and see in all this development a destiny as grand as insured. With our railroads we scale mountains and span the uninhabited plains, which are still in possession of the Indian, and open up vast territories for human habitation, which without the railroads must forever have been closed against civilization. If we are going fast, we are going in the right direction, and the day is not far off which will give us the great benefits we seek in our headlong course. The railroad will unite us and make us the great nation of the world, free and indissoluble.

The following tabulation shows the distribution of mileage and cost to the several States and Territories:

States, etc.	—Miles of Road—		Cost of road and equipment.
	Total.	Open.	
Maine.....	940.79	672.07	\$21,183,110
New Hamp...	785.32	685.32	22,642,630
Vermont.....	653.09	613.09	28,787,926
Massachusetts.	1,569.75	1,483.70	74,699,443
Rhode Island	121.47	121.47	5,132,672
Connecticut...	806.94	698.57	27,359,017
New York.....	4,735.91	3,636.22	\$209,001,671
New Jersey...	1,023.65	989.65	74,602,735
Pennsylvania..	6,878.36	5,014.45	300,556,508
Delaware and E. Maryland	455.50	292.50	8,772,637
Maryland, other than above	730.02	493.52	31,814,659
West Virginia	723.75	364.75	27,869,315
Virginia.....	2,049.11	1,482.94	\$49,886,481
North Caro...	1,552.97	1,129.67	29,505,425
South Caro...	1,439.17	1,089.97	27,348,817
Georgia.....	2,095.41	1,694.70	36,875,852
Florida.....	612.20	440.20	9,883,981
Alabama.....	2,039.80	1,036.00	\$36,421,163
Mississippi...	900.20	900.20	24,919,504
Louisiana...	1,286.30	414.50	17,385,223
Texas.....	2,529.25	572.25	17,006,000
Arkansas.....	897.00	86.00	4,310,000
Tennessee...	1,876.53	1,435.53	46,918,448
Kentucky.....	1,402.85	849.55	33,511,746
Ohio.....	4,613.96	3,723.89	\$190,424,507
Michigan.....	2,293.26	1,194.76	48,793,418
Indiana.....	5,331.10	2,977.10	121,162,301
Illinois.....	7,186.45	4,707.95	217,559,542
Wisconsin.....	2,779.60	1,490.60	60,358,723
Minnesota.....	1,800.00	823.00	27,860,000
Iowa.....	3,219.28	2,140.83	85,762,943
Nebraska.....	449.00	449.00	26,450,000
Wyoming Ter.	560.00	560.00	43,300,000
Missouri.....	3,261.79	1,827.00	88,372,121
Kansas.....	1,601.50	950.50	39,623,500
Colorado.....	350.00	150.00	\$6,000,000
Utah Ter.....	365.00	365.00	18,000,000
Nevada.....	390.00	390.00	19,500,000
California.....	2,397.60	810.60	46,650,000
Oregon.....	2,019.50	119.50	5,700,000
Total.....	5,522.10	1,835.10	\$95,850,000

RECAPITULATION BY SECTIONS.

North East..	4,877.36	4,274.22	\$179,804,798
Middle East.	14,547.19	10,791.09	652,618,525
South East..	7,749.86	5,837.48	154,000,257
Gulf & S. W.	10,573.93	5,294.03	180,472,084
N. Interior...	33,695.94	20,288.63	949,667,455
Pacific & W't	5,522.10	1,835.10	95,850,000

Total Jan. 1, 1870.....76,366.38 48,860.55 2,212,412,719

In the following statement is shown the increase in railroad development in the several sections during the year 1869:

Sections.	—Miles of Road—		Cost of road and equipment.
	Projected.	Opened.	
North East...	64.37	254.11	\$17,275,764
Middle East..	3,538.54	1,026.59	85,129,307
South East...	293.22	185.57	14,978,130
Gulf & S. W.	1,527.45	223.45	22,659,653
N. Interior...	8,656.60	3,976.55	189,000,824
Pacific & W.	366.10	922.10	29,664,000
Total.....	13,446.28	6,588.37	\$358,707,678

The annual progress of railroad building since in 1827 the commencement was made in the construction of the Granite Railroad at Quincy, Mass., to the present time is shown in the following table:

Year.	Miles.	Year.	Miles.
1828.....	3	1849.....	6,350
1829.....	28	1850.....	7,475
1830.....	41	1851.....	8,589
1831.....	54	1852.....	11,027
1832.....	131	1853.....	13,497
1833.....	576	1854.....	15,672
1834.....	762	1855.....	17,398
1835.....	918	1856.....	19,251
1836.....	1,102	1857.....	22,625
1837.....	1,431	1858.....	25,090
1838.....	1,843	1859.....	26,755
1839.....	1,920	1860.....	28,771
1840.....	2,197	1861.....	30,593
1841.....	3,319	1862.....	31,769
1842.....	3,877	1863.....	32,471
1843.....	4,174	1864.....	33,860
1844.....	4,311	1865.....	34,442
1845.....	4,522	1866.....	35,351
1846.....	4,870	1867.....	36,896
1847.....	5,336	1868.....	38,822
1848.....	5,682	1869.....	42,272
1870.....			48,860

City Passenger Railroads are not included in the above summary. These are now in general use in all considerable cities and in numerous instances in places where population is less dense. Their economical bearings are fully recognized and their popularity is increasing. Boston, New York, Brooklyn and Philadelphia count their street railroad tracks by hundreds of miles. Probably the total is not less than 3,500 to 4,000 miles.

Nor have we included in our statement any account of the second tracks with which most of the leading lines are supplied, nor the sidings and turnouts on all the lines. These may be estimated at 25 per cent. of the length of road, and are being added to yearly. Adding these supplementary tracks to the tabulated mileage we find that the total length of equivalent single track in use is about 60,000 miles, and if we add to this the equivalent for the city passenger tracks to nearly 65,000 miles. It is now about forty years since we began to build railroads and in that time, as before intimated, we have built a greater length than is to be found in the whole of Europe. Progress leads but to new demands and new enterprises.

—St. Paul has erected 500 buildings during the year,—351 dwelling, 42 business,—besides churches, hotels, school houses, etc., at an expense of \$1,395,727.

—Twelve million pounds of beef, the product of Texas cattle slaughtered at Leavenworth, is to be transported to New York by the "White Line."

—The total debt of the State of New York, is given by Gov. Hoffman, Jan. 3, 1870, at \$34,848,035 73; the Sinking Fund will extinguish the debt in ten years.

Canals Around Falls in Our Rivers.

The *Mining Register* says: The best paper that has yet appeared on the Surface Geology of the Basin of the Great Lakes and the Valley of the Mississippi, has just been published in the *Annals of the Lyceum of Natural History of New York*, by its author, the distinguished geologist, Prof. J. S. Newberry, who first made known to the scientific world the true depth and structure of the wonderful canons of the Green River and Colorado country. The whole of this paper is interesting, embracing as it does the very best and latest knowledge we possess of the changes from sea to land and from land to sea which our Western and North-western country has undergone in past times, and of the character of the surface clays, gravels, &c., which these operations have spread abroad, in making up the present surface, with its river valleys and lakes. But we have only room for a specimen of the paper, and select that part of it which will most interest Civil Engineers, wherein Dr. Newberry gives reasons for believing that there are concealed channels around most of the obstructions of our rivers, which could be taken advantage of for canalizing purposes. It comprises the second division of his paper; but to understand it, we must give also the first, from the beginning.

The area bounded on the north by the Eozoic highlands of Canada, on the east by the Adirondacks and Alleghanies, and on the west by the Rocky Mountains, though now, and apparently always drained by two systems of watercourses, may be properly considered as one topographical district; since much of the water shed which separates its two river systems is of insignificant height, is composed of unconsolidated "Drift" materials, has shifted its position hundreds of miles, as the water level in the great lakes has varied, and was for a long interval submerged beneath a water connection uniting both drainage systems in one.

In this great hydrographic basin the surface geology presents a series of phenomena of which the details, carefully studied in but few localities, still offer an interesting and almost inexhaustible subject of investigation, but which as it seems to me, are already sufficiently well known to enable us to write at least the generalities of the history which they record.

The most important facts which the study of the "Drift phenomena" of this region have brought to light are briefly as follows:

1st. In the northern half of this area, down to the parallels of 38°—40°, we find, not everywhere, but in most localities where the nature of the underlying rocks is such as to retain inscriptions made upon them, the upper surface of these rocks planed, furrowed or excavated in a peculiar and striking manner, evidently by the action of one great denuding agent. No one who has seen glaciers and noticed the effect they produce on the rocks over which they move, upon examining good exposures of the markings to which I have referred, will fail to pronounce them the tracks of glaciers.

Though having a general north-south direction, locally the glacial furrows have very different bearings, conforming in a rude way to the present topography, and following the directions of the great lines of drainage.

On certain uplands, like those of the Wisconsin lead region, no glacial furrows have been observed (Whitney), but on most of the highlands, and in all the lowlands and great

valleys, they are distinctly discernible if the underlying rock has retained them.

2d. Some of the valleys and channels which bear the mark of glacial action—evidently formed or modified by ice, and dating from the ice period of an earlier epoch—are excavated far below the present lakes and water-courses which occupy them.

These valleys form a connected system of drainage, at a lower level than the present river system, and lower than could be produced without a continental elevation of several hundred feet. A few examples will perhaps suffice to show on what evidence this assertion is based.

Lake Michigan, Lake Huron, Lake Erie, and Lake Ontario are basins excavated, in undisturbed sedimentary rocks. Of these, Lake Michigan is 600 feet deep, with a surface level of 578 feet above tide; Lake Huron is 500 feet deep, with a surface level of 574 feet; Lake Erie is 204 feet deep, with a surface level of 565 feet; Lake Ontario is 450 feet deep, with a surface level of 234 feet above the sea.

An old, excavated, now filled channel connects Lake Erie and Lake Huron. At Detroit the rock surface is 130 feet below the city. In the oil region of Bothwell, &c, from 50 to 200 feet of clay overlies the rock. What the greatest depth of this channel is, is not known.

An excavated trough, runs south from Lake Michigan—filled with clay, sand, tree trunks, &c—penetrated at Bloomington, Ill., to the depth of 230 feet.

The rock bottoms of the troughs of the Mississippi and Missouri, near their junction or below, have never been reached, but they are many feet, perhaps some hundreds, beneath the present stream beds.

The borings for oil in the valleys of the Western rivers have enabled me not only to demonstrate the existence of deeply buried channels of excavation, but in many cases to map them out. Oil creek flows from 75 to 100 feet above its old channel, and that channel had sometimes vertical and even overhanging cliffs. The Beaver, at the junction of the Mahoning and Shenango, runs 150 feet above the bottom of its old trough.

The Ohio throughout its entire course runs in a valley which has been cut nowhere less than 150 feet below the present river.

The Cuyahoga enters Lake Erie at Cleveland, more than 100 feet above the rock bottom of its excavated trough. The Chagrin, Vermilion, and other streams running into Lake Erie, exhibit the same phenomena, and prove that the surface level of the lake must have once been at least 100 feet lower than now.

The bottom of the excavated channel in which Onondaga Lake is situated, and the Salina salt wells bored, is at least 414 feet below the surface level of the lake and 50 feet below the sea level. (Geddes. Trans. New York State Agricultural Society, 1859.)

The old channel of the Genesee river at Portage, described by Prof. Hall in the Geology of the 4th District of New York; the trough of the Hudson, traceable on the sea bottom nearly a hundred miles from the present river mouth; the deeply buried bed of the lower Mississippi, are additional examples of the same kind; while the depth to which the Golden Gate, the Straits of Carquinez, the channel of the lower Columbia, the Canal de Haro, Hood's Canal, Puget's Sound, &c., have been excavated, indicates a similar (perhaps simultaneous) elevation and erosion of the Western coast of America.

The falls of the Ohio—formed by a rocky barrier across the stream—though at first sight seeming to disprove the theory of a deep continuous channel in our Western rivers, really afford no argument against it, for here as in many other instances, the present river does not follow accurately the line of the old channel below, but runs along one or the other side of it. In the case of the Louisville falls the Ohio runs across a rocky point which projects into the old valley from the north side, while the deep channel passes under the lowlands on the south side, on part of which the city of Louisville is built.

The importance of a knowledge of these old channels in the improvement of the navigation of our larger rivers is obvious, and it is possible it would have led to the adoption of other means than a rock canal for passing the Louisville falls, had it been possessed by those concerned in the enterprise.

I ventured to predict to Gen. Warren that an old filled up channel would be found passing around the Mississippi rapids, and his examinations has confirmed the prophecy. I will venture still further, and predict the discovery of buried channels of communication between Lake Superior and Lake Michigan—probably somewhere near and east of the Grand Sable—at least, between the Pictured Rocks and the St. Mary's River—between Lake Erie and Lake Ontario through Canada—between Lake Ontario and the Hudson by the Mohawk—between Lake Michigan and the Mississippi somewhere along the line I have before indicated. I also regard it probable that a channel may be found connecting the upper and lower portions of the Tennessee river passing around the Mussel Shoals. This locality lies outside of the area where the Northern Drift deposits were laid down to fill and conceal ancient channels, but the excavation and the filling up of the channel of the Tennessee—like that of the Ohio—were determined by the relative altitude of the waters of the Gulf. The channel of the lower Tennessee must have been excavated when the southern portion of the Mississippi valley was higher above the Gulf level than now, and Prof. Hilgard has shown that at a subsequent period, probably during the Champlain epoch, the Gulf coast was depressed 500 feet below its present relative level. This depression must have made the lower Mississippi an arm of the sea, by which the flow of the Ohio and Tennessee was arrested, their channels filled, terraces formed, &c. If the Upper Tennessee has, as appears, a channel lower than the Mussel Shoals, it must be somewhere connected with the deep channel of the lower river.

It should be said however, that it by no means follows that where an old earth filled channel passes around the rocky barrier by which the navigation of our rivers is impeded, it will be most convenient and economical to follow it in making a canal to pass the obstacle, as the course of the old channel may be so long and circuitous that a short rock cutting is cheaper and better. The question is, however, of sufficient importance to deserve investigation, before millions of dollars are expended in rock excavations.

If it is true that our great lakes can be connected with each other and with the ocean, both by the Hudson and Mississippi, by ship canals—in making which no elevated summits nor rock barriers need be cut through—the future commerce created by the great population and immense resources of the basin of the great lakes may require their construction.

1820

The Iron Mines of Lake Superior.

A CORRESPONDENT of the *Boston Journal* writes as follows:

Iron mining in this region has only just begun—it is yet in its infancy, and yet the value of the metal produced last year amounts to about eighteen millions of dollars.

QUALITY OF THE IRON.

The cause for this rapid development is found in the fact that the Lake Superior ore makes the best iron in the world. Persistent efforts were made to cry it down, but those who were engaged in its production invited rigid tests.

Its tenacity, in comparison with other qualities, will be seen by the following tabular statement:

Swedish,-----	59
English Cable Bolt,-----	59
Russian,-----	76
Lake Superior,-----	89½

When this fact was made known, railroad companies throughout the country began to use Lake Superior iron for the construction of locomotive car wheels and axles. Boiler builders wanted it. Those who tried it were eager to obtain more, and the result is seen in the rapidly increasing demand.

COST OF MINING.

The average cost of mining and delivering the ore in the cars at the mines is estimated at two dollars per ton. The ore is shipped to Cleveland at a cost of \$4.35, making \$6.35, when laid on the dock in that city, where it is readily sold for \$8, leaving a profit of about \$1.65 per ton to the shipper. Perhaps, including insurance and incidentals, the profits may be reduced to about \$1.25 per ton. It will be seen that this is a remunerative operation.

About one hundred furnaces in Ohio and Pennsylvania use Lake Superior ore almost exclusively, while others mix it with the ores of those regions.

CHARCOAL FURNACES.

A large amount of ore is smelted at Lake Superior, where charcoal is used. The forests in the vicinity of the mines are rapidly disappearing. The wide spreading sugar maple, the hardy yellow birch, the feathery hickory and evergreen hemlock are alike tumbled into the coal pit to supply fuel for the demands of commerce.

The coal consumed per ton in smelting costs about eleven cents per bushel. For smelting a ton of the best ore about one hundred and ten bushels are required; for a ton of the poorest about one hundred and forty bushels, giving an average of about \$13 per ton. The cost of mining is, as has already been stated, about \$2 per ton. To this must be added furnace labor, interest on capital employed, insurance, freight, commission, making a total of about \$35 a ton.

SOUTH CAROLINA FINANCES.—The State Treasury of South Carolina gives notice that the interest maturing January 1, 1870, on the bonds of that State will be paid in gold, on demand, at the banking house of H. H. Kimpton, financial agent of the State of South Carolina, 9 Nassau street, New York, and at the Treasury office, Columbia, S. C. The interest on registered stock of the State will be paid in Columbia only. The whole of the State debt is only \$6,100,000, and the Senate has peremptorily refused to consider the granting of State aid to railroads.

Railroad Items.

—The past has been a fruitful year for Kansas, not only in good crops and heavy immigration, but for the extension of her lines of railroads. The Missouri River, Fort Scott and Gulf railroad now extends south from Kansas City one hundred and ten miles; the length of the Leavenworth and Lawrence Branch, thirty-one miles; Central Branch of Pacific, from Atchison west, one hundred miles; Missouri River road, twenty-two miles; Leavenworth Atchison and Northwestern, all of which has been built this year, twenty-one miles; Leavenworth, Lawrence and Galveston, forty-four miles; Topeka and Santa Fe, twenty-seven miles; Southern branch of Pacific, from Junction City down the Neosho, fifty odd miles; St. Joseph and Denver, seventeen miles; Kansas Pacific railroad, four hundred and twenty-five miles. Thus it will be seen that Kansas, one of the youngest States in the Union, has eight hundred and twenty-one miles of completed railroad. There have been two hundred and thirty-four miles of railroad completed in the State during the past year. There are between seven and eight hundred miles of projected railroad in the State, a large portion of which is now in progress of construction. From present prospects, we may safely make the prediction that there will be four hundred miles more of railroad completed during this year.—*Fort Scott Monitor*.

—The report of the Boston and Maine Railroad for the year ending November 30th, 1869, shows that it has no funded debt, and the floating debt is \$217,437, an increase of \$7,437 during the year. The total cost of the road and equipments is \$5,096,914 54. The amount of assets held by the corporation in addition to the cost of the road (after deducting the dividend of Jan. 1st, 1870, and adjusted and unadjusted liabilities) is \$375,680 39. The total expense for maintenance of way has been \$276,514 23, and the total for maintenance of motive power and cars, \$210,351 88. The road has 45 locomotives, 77 passenger, 23 baggage, 992 merchandise and 215 gravel and hand cars. The total expense of working the road has been \$1,321,389 80, and the total income \$1,871,339 02, making the net earnings \$549,949 22. The dividends (ten per cent) and taxes amount to \$179,471 26, leaving a surplus of \$19,477 96, besides a reserve of \$60,000 to meet contingent expenses. The total surplus now is \$1,060,420 41.

—The "last spike" of the Pacific Railroad, has been manufactured up into gold rings, and one each presented to President Grant, W. H. Seward, Leland Stanford, President of the Central Pacific; Col. John B. Turner, Director, Geo. L. Dunlap, General Superintendent, and William B. Ogden, ex-President of the Chicago and Northwestern; Geo. M. Pullman and A. B. Pullman, of the Pullman palace cars, John Duff, Director, and C. G. Hammond, General Superintendent, of the Union Pacific, and C. P. Huntington, Vice President of the Central Pacific.

—The *Seattle Intelligencer* says it has been decided to begin the work of construction of the Northern Pacific Railroad on the Pacific side at Wallula, on the Columbia River, but this terminus will be only temporary, as the original design of carrying the road to Portland and ultimately to Puget Sound will be adhered to. The eastern terminus has not yet been located, but according to the terms

of the charter it must be established on the shores of Lake Superior. Several points on the lake have been considered, but we have no indication which one will be finally selected. It is stated that work upon the eastern and western divisions will be commenced simultaneously. Arrangements have been made at Stockholm for a force of 7,000 Swedish laborers, who will be employed upon the eastern end of the route, while about an equal number of Chinese will be employed on the western division.

—The Chicago, Danville and Vincennes Railroad Company, will be 140 miles long, extending from Chicago through the counties of Cook, Will, Kankakee, Iroquois, and Vermilion, to the city of Danville, and thence in a southeasterly direction to the State line of Indiana, where it will connect with the Evansville, Terre Haute & Chicago Railroad. The general character of the country is very favorable for the construction of the road, there being no grade exceeding twenty feet to the mile, north, and not exceeding forty feet to the mile, south. Forty-five miles of this line, from Chicago to Moline, is now finished. The balance is being rapidly pushed forward to completion, with the iron already purchased, and when finished will form a continuous line from Chicago, through Danville, Terre Haute, and Vincennes to Evansville, on the Ohio river.

—The Tennessee and Pacific Railroad, extending from Nashville to Knoxville, is being pushed forward rapidly. It is calculated that the first thirty miles will be entirely completed by the first of May next, so that cars will be running from Nashville to Lebanon.

—From the Lakes to the Atlantic, by the new route now entirely owned by the Baltimore and Ohio Railroad, extending from Sandusky to Baltimore, is 595 miles.

—It is stated that the traffic on the London Underground Railway, amounted for the half year ending June 30th, last, to 20,087,800 passengers.

—The receipts of the Union Pacific Railroad for November were \$714,885 expenses \$499,608.

LUMBERING IN THE WESTERN SLOPE OF MICHIGAN.—The Muskegon Enterprise says:

The western slope of the State of Michigan can be safely put down, as having cut the following amount of lumber, during the season of 1869:

County.	Lumber.
Muskegon	319,380,555
Manistee	170,000,000
Ottawa	225,000,000
Oceana	85,000,000
Mason	72,000,000
Grand Traverse, South Haven, St. Joseph, &c., }	40,000,000
Total	1,011,330,555

CHINESE IMMIGRANTS.—It appears that 138,000 Chinese have been taken to California. Of these 37,323 have returned to China, and 16,426 have died. Of the 90,251 remaining on the Pacific Coast 41,000 are living in California divided into 31,700 active laborers, and 9,300 women and children, old and decrepid, and prisoners confined in jails.

MICHIGAN STATE FINANCES.—The fiscal year of the State closed on Tuesday, with a total indebtedness (interest and non interest bearing) of \$3,043,578 49, with a cash balance on hand of over \$850,000, and with a record of taxation reduced over one third, and yet conjoined with liberal appropriations for our State institutions. At the close of the fiscal year, the bonded debt was \$3,614,078 49, and the actual reduction in its amount during the year has thus been \$570,500. There are also \$551,500 of the War Loan Bonds, which have been already drawn and fall due on January 1, 1870, and for whose redemption the cash on hand will be amply sufficient. The event will make the total reduction on the State debt, during the thirteen months ending with January 1, 1870, the handsome sum of \$1,122,000. We do not believe that any of our sister States can equal this record of a simultaneous reduction of debt and taxation, accompanied by increased liberality in the treatment of important State institutions.—*Detroit Tribune*.

FINANCES OF CHICAGO.—We are indebted to Mr. A. O. Slaughter, banker in Chicago, for the following complete statement of the bonded debt of that city, compiled by Mr. Kimball, City Comptroller. The assessed value of real and personal property in Chicago, as given in the last financial report to April 1, 1869, was \$230,247,000, on which amount the rate of taxation was fourteen mills on the dollar. The amount of the Sinking Fund on hand at that time was \$129,036. The total funded debt, December 1, 1869, is stated at \$10,040,500, to which amount must be added the South Park loan for \$2,000,000, now being negotiated in New York, which will make the total debt \$12,040,500.

NORTH CAROLINA BONDS.—From the annual report of the Treasurer of the State of North Carolina we find that the amount of "special tax" bonds issued to railroads is \$11,510,000; which is much below the amount generally hitherto supposed. The issues of the several roads are as follows:

Western Railroad	\$1,320,000
Western North Carolina	6,640,000
Wilmington, Charlotte, and Ruth-	
erford	1,500,000
Williamston and Tarboro	300,000
Atlantic, Tennessee, and Ohio	1,750,000

Total

\$11,510,000
The Atlantic, Tennessee, and Ohio issue are not recognized on the board as a "good delivery." The Treasurer states that there are \$3,140,000 bonds in the Treasury not called for by the roads; but does not say whether they are "special tax" or otherwise.

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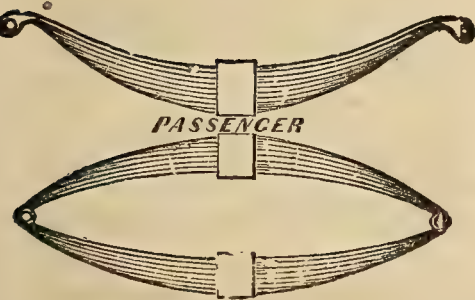
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Providence, Albany,

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Philadelphia, Baltimore,

And Principal Points in

NEW YORK, NEW ENGLAND

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Pennsylvania.

This Railway extends from

CINCINNATI to NEW YORK, - 860 Miles.
CLEVELAND to NEW YORK, - 625 Miles.
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BUFFALO to NEW YORK, - 423 Miles.
ROCHESTER to NEW YORK, - 385 Miles

AND IS FROM

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Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS.

(Sundays excepted.) Arrive Dayton 9.10 A. M.; Urbana, 10.29 A. M.; Galion, 12.57 P. M.; Mansfield, 1.40 P. M.; West Salem, 2.48 P. M. (Dine). (Sleeping Coaches through to New York); Akron, 4.21 P. M.; Ravenna, 5.05 P. M.; Meadville, 7.55 P. M. (Supper); Susquehanna, 8.10 A. M. (Breakfast); Turner's, 2.07 P. M. (Dine); New York, 4.10 P. M. Connects at Ravenna with Cleveland & Pittsburgh Railroad for Hudson and Cleveland; at Elmira for Williamsport and the South; at Binghamton for Cooperstown, Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.26 A. M.; Galion, 4.00 A. M.; Mansfield, 4.44 A. M.; West Salem, 5.56 A. M. (Breakfast); Akron, 7.33 A. M.; Ravenna, 8.20 A. M.; Meadville, 11.16 A. M. (Dine); Hornellsville, 6.19 P. M. (Supper); New York, 7.10 A. M. Connects at Mansfield with Pittsburgh, Ft. Wayne & Chicago Railway for Pittsburgh, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities.

New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through **860 Miles without Change.**

Boston and New England Passengers, with their Baggage, are transferred FREE OF CHARGE in New York.

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THE scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

Baggage Check'd Through

And Fare always as Low as by any other Route.

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BOSTON,

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WASHINGTON**FREE!****NO CHANGE OF CARS**

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 or Columbus to **Philadelphia and New York.**

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Cincinnati, Hamilton & Dayton Railroad.

Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City	7 00 A. M.	9 20 P. M.
Toledo & Detroit	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail	7 00 A. M.	5 25 P. M.
Richmond & Chicago	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada	6 00 P. M.	10 30 A. M.
Hamilton Accommodation	6 45 A. M.	6 45 A. M.
Richmond & Chicago	7 00 P. M.	9 20 A. M.
Hamilton Accommodation	7 00 P. M.	7 55 A. M.

Trains run **SEVEN MINUTES FASTER** than Cincinnati time.

For all information and through tickets, please apply at
 hold office, south-east corner of Broadway and Front; Bar-
 rett House Office, corner Vine and Baker streets, and at the
 respective depots, East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
 Omnibuses call for passengers.

JANUARY 5th, 1868.**Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph
 Jefferson City, and all points on the Lower Mis-
 sissippi River, and on the the Illinois
 Central Railroad.

RAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc
Leave CINCINNATI	7 10 a.m.	10 10 p.m.	4 00 p.m.
Arrive SEYMOUR	12 00 m.	2 00 a.m.	8 10 "
Leave " "	12 20 p.m.	2 10 "	" "
Arrive VINCENNES	5 15 "	6 35 "	" "
Leave " "	5 20 "	6 40 "	" "
Arrive ODIN	9 35 "	10 30 "	" "
Leave " "	9 45 "	10 40 "	6 30 a.m.
Leave SANDOVAL	9 55 "	10 50 "	6 45 "
Arrive ST. LOUIS	1 00 "	1 30 p.m.	9 40 "
Trains Arr. at C. O'H.	6 10 a.m.	11 30 p.m.	12 00 m.

For tickets, or information apply at Offices, 131 Vine
 Street, Corner Front and Broadway; and at Depot, Foot
 Mill Street.

O. E. FOLLET - Gen. Passenger Agent
J. W. CLOGG -
 General Superintendent.

Best Route to St. Louis and Chicago

INDIANAPOLIS,

CINCINNATI

-AND-

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,

CAIRO,

CHICAGO,

Memphis, New Orleans, Springfield, Quincy
 Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West,
 North west and South-west.

ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS
 WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail	6 30 am	12 20 am
St. Louis and Springfield Express	3 35 pm	8 20 am
St. Louis and Springfield Express	10 35 pm	3 30 pm
Lawrenceburg Accommodation	10 00 am	2 35 pm
Lawrenceburg Accommodation	4 45 pm	8 05 am

*The 10 35 pm. train will leave Sundays, but not on Sat-
 urdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail	7 00 am	10 00 am
Chicago Express	6 10 pm	9 40 pm
Harrison Accommodation	6 10 pm	6 40 am

Through Tickets can be obtained at the Burnet House
 Office, corner of Third and Vine; River Office, corner of
 Walnut Street and River; and at Depot, corner of Plum
 and Peay streets. The splendid Passenger Depot of the
 I. & C. Railroad is about a mile nearer the business center
 of the city than the Depot of any other railroad, and with-
 in a few squares of the Postoffice and principal hotels and
 Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

Philadelphia, Wilm'gton & Baltimore

RAILROAD!

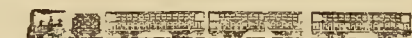
**FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**

4.15 (Express Monday excepted), 8.15 A. M.; 11.45 A. M.
 Express; 2.30 P. M.; 11.30 P. M. night.

On Sundays 4.30 A. M.; 11.30 P. M.
 Leave Baltimore for North and West 7.35 A. M.; 9.20
 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2
 P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore
 and Washington at 4.15 A. M., and 11.00 P. M. Leave at
 timore for Philadelphia at 8.25 P. M.

Leave Philadelphia for Wilmington at 11.30 P. M. Leave
 Wilmington for Philadelphia at 8.30 P. M.

The Old And Reliable Route.**Through to Pittsburg without Change.**

The **PITTSBURG, FORT WAYNE & CHICAGO RAIL-**
ROAD, in connection with the Cincinnati, Hamilton &
 Dayton, and Little Miami Railroads, still continue to trans-
 port produce and merchandise between Cincinnati and
 Pittsburg, Philadelphia, Baltimore, New York or Boston,
 and all Eastern points with the greatest promptitude and
 dispatch.

For Rates, Bills of Lading, or any information desired,
 shippers will please apply to

H. W. BROWN & CO.,
 No 27 West Third Street, Cincinnati.

W. P. SHINN, General Freight Agent,
 Pittsburg, Pa.

LOUISVILLE & CINCINNATI

SHORT-LINE RAILROAD.

Time only 5 hours

Fare Only \$3.50—Transfer from Hotel or
Residence to Depot, in Covington, Free.

THE SHORTEST ALL-RAIL ROUTE TO
 Louisville, Nashville, Memphis, New
 Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail	7.00 A. M.	2.30 P. M.
Evening Express	9.45 P. M.	9.10 P. M.
Walton Accommodation	4.00 P. M.	9.30 A. M.

The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
 the Walton Accommodation, offer great inducements to the
 citizens of Cincinnati and Covington who wish to pur-
 chase country residences or small farms for gardening.
 This train leaves late in the afternoon, and arrives early
 next morning, giving all day to attend to business. For
 further information as to routes, low fare, &c., please apply
 at No. 1 Burnet House, or Depot Covington, Ky.

SAM'L GILL, Gen'l Sup't. Louisville.

CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Lib-
 erty st., connects at Hampton Junction with the Dela-
 ware, Lackawanna, and Western Railroad, and at Enon
 with the Lehigh Valley Railroad and its connections,
 forming a direct line to Pittsburg and the West, without
 change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago,
 Cincinnati, St. Louis, etc., with but one change of cars.
 Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as
 follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk,
 Williamsport, Wilkesbarre, Maloney City, Tuckhannock,
 &c.
7:15 a. m.—For Somerville.
8:30 a. m.—For Flemington, Junction, Stroudsburg,
 Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.
12 m.—For Flemington, Easton, Allentown, Mauch
 Chunk, Wilkesbarre, Reading, Columbia, Lancaster,
 Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.
3:30 p. m.—For Easton, Allentown, Mauch Chunk
 and Belvidere.
4:30 p. m.—For Somerville.
5:25 p. m.—For Somerville and Flemington.
6 p. m.—For Easton and intermediate stations.
7 p. m.—For Somerville.
7:20 p. m.—EMIGRANT—Stopping only at the prin-
 cipal stations.
9:00 p. m.—For Plainfield.
11:50 p. m.—For Plainfield, on Wednesdays and
 Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,
 for Easton, Allentown, Harrisburg, and the West without
 change of cars to Cincinnati or Chicago, and but one
 change to St. Louis. Connects at Harrisburg for Erie and
 the Oil Regions. Connects at Junction for Stroudsburg,
 Water Gap, Scranton, &c. Connects at Phillipsburg for
 Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Satur-
 days), for Easton, Bethlehem, Allentown, Reading, Harris-
 burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars
 to Pittsburg and Chicago. Connects at Junction with
 Delaware, Lackawanna and Western Railroad for all sta-
 tions to Scranton. This train will be run to Easton on
 Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,
 Allentown, Reading, Harrisburg, Pittsburg, and the West
 —connects at Harrisburg with train for Williamsport, Erie,
 &c.

Sleeping cars through from Jersey City to Pittsburg
 every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15,
 8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:00, 2:00
 3:00, 3:30, 4:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25,
 7:00, 7:20, 7:40, 8:00, 9:00, 9 40 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the
 Central Railroad of New Jersey, foot of Liberty st., N. Y.;
 at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at
 No. 10 Greenwich st., and at the principal hotels.

R. E. RICKER, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - } Editors.
T. WRIGHTSON,
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, JANUARY 13, 1870.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
" " per month.....	5 00
" " six months.....	15 00
" " per annum.....	25 00
" column, single insertion.....	7 00
" " per month.....	14 00
" " six months.....	55 00
" " per annum.....	110 00
" page, single insertion.....	25 00
" " per month.....	40 00
" " six months.....	135 00
" " per annum.....	240 00

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WRIGHTSON & CO., Prop'r's.

Cincinnati Southern Railway.

KENTUCKY INTERESTED.

It is not guess work to assert, for it is no longer an experiment, that railroads increase the value of farm lands, as well as town lots, and it is not necessary to go to the prairies of the West for illustrations, although there towns spring up in twenty-four hours, and the "march of Progress" is at the rate of "two miles a day." This was the tune played in the construction of our great continental railway, the Union Pacific, and is now being repeated in many localities on the broad prairies of Iowa, Wisconsin and Minnesota. A farmer in the interior of Iowa is to-day nearer in time and cost to either New York, New Orleans or San Francisco, than if he lived in the interior of Kentucky, and has better access to those markets. Now what are the real facts in the case, and where is the difficulty? Kentucky was among the very first to acknowledge the importance of internal improvements, to recognize the great civilizing influence of railroads and other improved means of transit, and made great promise of taking the lead among the sister-hood of State in the construction of avenues for commerce. As far back as January, 1830, Kentucky began to grant charters for railroads, and her fecundity in granting liberal charters to all askers at almost every session of her Legislature since that time has been the wonder and admiration of disinterested observers. Especially has this been the case where there was no earthly hope of the provisions of the charter ever being carried out.

The status of Kentucky in regard to her advancement in developing her resources is

readily seen by the following comparative statement of her railroads. On the first of January, 1869, as we learn by the table of the *American Railroad Journal*, which is the latest memoranda we have at hand, that Kentucky had 812 $\frac{1}{2}$ miles of railroad, constructed at a cost of \$28,799,285; Pennsylvania had 4,397 $\frac{1}{2}$ miles, at an outlay of capital of \$257,772,227; and Iowa, one of the young Giants of the West had 1,523 miles, costing \$61,332,000, while during the past year Iowa has constructed almost as many miles of railway as is above credited to Kentucky in her nearly forty years of experience.

The Governor in his message to the Legislature insists that it is necessary to make some provision for the increase of the revenue. That there is an annual deficit in her income, and that the Legislature must make some provision for it, or bankruptcy will soon stare them in the face. The Governor does not make a suggestion of how to do it. We were informed that a few days ago, the Sheriff of one of the counties went to Frankfort to settle with the Auditor, the taxes of his county, he paid the Auditor less than a thousand dollars for taxes, and presented claims for wild cats, wolves and foxes to over fifteen hundred dollars. How long will it require to reimburse the million of dollars borrowed of the sinking fund at this rate? Just about as long as it took the frog to jump out of the well. The story is that a teacher, desirous of interesting and awaking up a spirit of commendable inquiry in a dull school boy suggested the problem to him, of how long would it take a frog to jump out of a well thirty feet deep, provided that every time he jumped up two feet and then fell back four. The boy tried his best until he got his slate full, when with eyes beaming with satisfaction he looked up to the teacher, who asked him how he was getting along, and where was the frog now? Jim replied that he had cyphered his slate full and had done his best for him, and tried to get him out, but it was no go; that if the frog had kept on jumping, he had no doubt he was in h—l by this time, and if the teacher could cypher him out he would like to have him try it, for he couldn't.

Now the truth is, the Cincinnati Southern Railway presents the very best solution of this problem. Let us look for a moment at the result of the construction of the Cincinnati Southern Railway in reference to the material interests of the State. How far on each side does the influence of a railroad extend, and what is the amount of that influence in increasing the taxable values of landed estate? We presume that it will not be denied that this influence will be felt to the same extent in Kentucky as in other States, and to the same amount. It is conceded that all lands within twenty miles of a great trunk railway are affected by it, and that it is a low estimate to quote twenty-five per cent. as the

average increased value of the territory embraced within the limits named.

This basis being correct, to what extent will it affect the interests of the Commonwealth? A good map will show the reader, if he will take the trouble to stick a pin in it at Cincinnati and attach a string to the pin and draw an air line to Chattanooga that the following counties and parts of counties will come within the space of twenty miles on each side of the string. The valuations are of farm lands only, exclusive of town lots, and taken from the elaborate report of D. HOWARD SMITH, Esq., the State Auditor:

Kenton.....	\$3,413,515
Boone.....	3,706,049
Gallatin.....	1,290,033
Grant.....	2,042,052
Owen.....	2,052,560
Henry.....	949,557
Franklin.....	2,401,588
Shelby.....	1,613,344
Woodford.....	4,193,690
Anderson.....	1,080,170
Mercer.....	3,103,336
Boyle.....	2,505,525
Washington.....	1,286,557
Marion.....	958,628
Taylor.....	407,387
Casey.....	986,883
Russell.....	586,914
Adair.....	711,826
Clinton.....	626,630
Cumberland.....	651,939
Campbell.....	3,217,987
Pendleton.....	2,131,735
Harrison.....	3,558,675
Scott.....	4,971,215
Fayette.....	7,879,225
Jessamine.....	2,911,775
Garrard.....	2,665,600
Lincoln.....	3,073,939
Wasi.....	1,507,217
Wayne.....	983,071

Total.....\$67,468,666

From the above it will be seen that the total taxable farm lands of thirty counties and parts of counties are to be affected by the construction of this road, having an aggregate valuation for taxable purposes of \$67,468,666, or thirty-one per cent. of the entire assessment of farm lands for the State. Twenty-five per cent. of this would be \$16,867,166. This is exclusive of town lots, which amount to nearly an equal sum, and of the amount to be expended in construction and equipment, which would also be subject to taxation. Surely it is a plain case, that the interests of the Commonwealth demand the construction of this proposed road. It is especially the interest of every farmer in this broad belt, and no detriment to any other portion of the State.

KANSAS PACIFIC.—The total receipts for 1868 were \$1,910,161.83. For the first ten months of 1869 the receipts were \$1,846,474.49, and for November and December, the estimate is in round numbers \$500,000, making the total for this year \$2,386,474.66.—*Chicago Railway Review.*

How Kentucky Stands About Railroads.

There is something quite singular in the economic and commercial history of Kentucky, and especially in regard to communications between the North and the South.

About thirty-five years ago, there was what may be termed a railroad revival. It had then just got to be understood that railroads were a power in the land, and that those cities and districts which had them would certainly prosper commercially. It was then proposed to connect the North and South by a railroad, from Sandusky through Cincinnati to Charleston, S. C. It was not merely a Cincinnati road. It was a road that would pass from the lakes to the Southern Atlantic. If made at that time it would have done incalculable good. It would have gone far to prevent the civil war. It would have made a garden of the Central and South-eastern part of Kentucky.

But what happened? How was it treated by the politicians, and by those who then held power in Kentucky? South Carolina saw the immense advantages of this scheme, and went into it with all its heart. But even in South Carolina it met with no small obstacle in the lukewarmness, if not hostility, of Mr. Calhoun. He saw clearly enough that South Carolina must be connected with the Valley of the Mississippi to prosper. But he seemed to dread or fear the connection with the North. So he went for a road from Charleston to Memphis, which has since been made, and is, of course, very valuable. But this was not a connection with the North, and would answer no such purpose. It was no connection with the Ohio Valley, which produced the things, and furnished the trade the South wanted. But South Carolina went into it, and if it had depended only upon her, that great work would long since have been made.

But how was it with Kentucky? Mr. Clay was the great statesman then, and as far as we know, never took any interest in railroads. We do not remember any letter, speech or evidence that showed Henry Clay to have comprehended, or to have been interested in railroads. He seems to have been indifferent to whatever course Kentucky took on the subject.

What then did Kentucky do? She effectually barred up the gates through Kentucky, and for twenty years after scarcely had a railroad. She nominally passed the charter of the Cincinnati and Charleston Railroad Company, but so burdened it, that at that time, it could not be made, and the subsequent commercial convulsions, and the death of Gen'l Hayne, who was really the head of the enterprise, stopped all proceedings on that road.

What has been the enterprise of Kentucky since in regard to works of public improvement? The next thing on foot, was to make a lock and dam navigation on the Licking

and Kentucky rivers. Now this navigation would have been very useful and would be to day, as it might be, and ought to be, to West Liberty, there would be a great improvement in that part of Kentucky. The iron and coal mines, and lumber regions there would have an advantage in supplying Cincinnati. But, what happened? After building four or five locks, and before they were completed and could be useful, Kentucky, frightened at a small debt, stopped the work, left the locks to decay, and they become monuments to imbecility and weakness.

What happened next? Kentucky then began something that really was useful, only on a small scale. She commenced a system of turnpikes, and certainly they were a good thing; but while wagons were taking a week to carry their produce a hundred miles on turnpikes, the railroads on the north side of the Ohio were taking only four hours, and that is about the difference in the time of doing business on the two sides of the Ohio. Turnpikes are absolutely necessary, but they are only useful when they go to railroads.

In Ohio the average length of turnpikes is not more than ten miles. Why? Because almost every county in the State has a railroad, and the turnpikes are only necessary to take produce to the railroad stations. But how is it in Kentucky? Having killed the proposed Southern road in 1836; having abandoned the locks and dam navigation in 1841, and having made her turnpikes, where is Kentucky to day?

Having begun her course as one of the most promising States in the Union, she has, to-day, *less proportion of railroads than any State east of the Mississippi!* She has less growth than any State in the Valley of the Ohio; and she proposes nothing whatever to retrieve her situation. We say this not to reproach, for it is not our business, nor of any one outside of Kentucky. But we do say it to excite, if this article should reach any Kentuckian, some spirit of enterprise and emulation.

We have before presented some of the facts bearing on this subject, but we present them again, so that all who run may read:

1. What is the proportion of railroads in Kentucky? Kentucky had, Jan'y, 1869, in round numbers, 800 miles of railroad on 37,680 square miles of surface—that is, 1 mile of railroad to 47 square miles of area, and that is the least proportion of any State east of the Mississippi. Ohio has 1 mile of railroad to 11 square miles; Indiana has 1 to 11; Illinois has 1 to 15. Ohio, Indiana and Illinois have nearly or quite 11,000 miles of railroads, more than all Europe had a few years ago. The consequence is, that Ohio, Indiana and Illinois are growing with immense rapidity, notwithstanding their already great populations.

Ohio in 1868, built no less than 17,000 new structures. How is Kentucky growing?

2. What has been the growth of Kentucky compared with other Western States? The following statistics of each decade, since the beginning of the railroad era, will show:

	Kentucky.	Ohio.	Illinois.
In 1830.....	687,917	937,903	157,445
In 1840.....	779,878	1,519,467	476,183
In 1850.....	982,405	1,980,329	851,470
In 1860.....	1,155,684	2,339,511	1,711,951
In 1870.....	1,330,000	2,900,000	2,500,000

The per centages were:

	Ky.	Ohio.	Ind.	Ill.
From 1830 to 1840...	13.36	62	99	202
" 1840 to 1850...	26.00	30	44	78
" 1850 to 1860...	18.00	18	37	102
" 1860 to 1870...	18.00	25	35	50

This table shows fully the difference in growth, but, perhaps, the density per square mile will show it more fully:

Density of Kentucky.....	35	per square mile.
" Ohio.....	75	" "
" Indiana.....	46	" "
" Illinois.....	43	" "

We add no more because it is quite plain that the wealth of Kentucky has increased no faster than its population.

In conclusion, we say, that Kentucky may very easily have both a railroad and a commercial revival. Suppose the Kentucky Legislature now takes a bold and liberal stand, with the fixed determination that Kentucky shall take rank with the first States of the Union. Let her charter the "Southern road," and say to Cincinnati, if you want to spend ten millions of dollars on that road, do it. Set men at work, let them go to iron making, and set locomotives running through Kentucky. The quicker they are at work the better. Say to Louisville, make your road to Chattanooga, and go ahead with it. Say to the Cumberland railroad people, go ahead, make your road where you please. Join on to these other people, and make Cincinnati and Louisville both help you.

If the Legislature has the wisdom to adopt this course, it will put Kentucky on a new career. In three years time she will have 1,000 miles more of railroad completed. Louisville will find that liberal policy for the best, and in a few years double her wealth and population. She can do it in no other way, and it is a great delusion to think that fighting Covington, Newport and Cincinnati will be her gain. What has she not lost by the loss of the Charleston road in 1836? If that road had been made, Cincinnati would have been a great gainer, that is true, but Louisville would have doubled in population. Was it wise to play dog in the manger?

During the year 1869, 6,450 persons died in Chicago, against 5,985 the previous year.

The Midland Road.

The Midland Railroad is completed from Oswego to Norwich, a distance of 99½ miles. From a point about six miles south of Norwich, and thence eighteen miles west to Sidney Plains, the connecting station on the Albany and Susquehanna Railroad, the grading is completed and it only remains to finish some ballasting to put the track in perfect running order. Trains will probably make regular trips from Oswego to Sidney Plains, a distance of 124 miles, about the 15th inst. The telegraph line, which is the property of the railroad company, was formally opened for public business on New Year's day. At Lyons Brook, near Norwich, there is a substantial wrought-iron truss bridge 800 feet in length. The center is supported by a heavy stone pier. From the bed of the rivulet, in the gorge below, to the track level at the center of this bridge the height is 155 feet. The structure is one of the most graceful, solid and perfect in the State, and can support any required weight.

The first trial of its strength was made on Thursday last, and was the occasion for the gathering of a large concourse of people from the surrounding country. Probably not less than 3,000 persons were present. A train, consisting of a heavy locomotive, ten platform and two passenger cars, having on board a number of people, slowly moved to the center of the bridge, and, pausing there a moment, the whistle of the iron horse awoke the echoes of the wild and craggy ravine with shrill screams, while the passengers on board the train, and the spectators on either bank enthusiastically cheered. The train then started to the other side and returned with increased speed. The rolling stock employed on this route comprises sixteen new locomotive engines, and a large number of cars.

Work advances rapidly on other portions of the road. The main part of the southern end, from Centerville, in Sullivan county, to the tunnel at Wurtsboro, is graded and the ties supplied. The branch from Ellenville, in Ulster county, to the tunnel entrance—a distance of eight miles—is also graded and tied. Between Parkersville and Centerville, in Sullivan county, the work of filling, cutting, and grading, is energetically pushed forward. At Liberty, Liberty Falls, and Young's Gap—the latter point is the summit of the grade west of the Shawangunk Mountains—there are also heavy cuts, grades, and fills. On the eastern side of these mountains the work is similar to that on the west side, and progresses finely. There is to be a high suspension wrought-iron truss bridge over the Shawangunk Kill just at the mountain's base; also heavy cutting at Fair Oaks, which is about midway between Bloomingburgh and Middletown. From this point the route crosses that of the Erie Railway, and continues toward Deckertown, N. J., and is being graded. From thence to Pompton Plains, 38 miles distant, contracts are now being made for the grading, etc. From the latter point, via Montclair to the Metropolis, the ground is more level and the grading is effected with smaller expense, less trouble, and greater dispatch. From Pompton Plains, via the New Jersey Western Railroad (which is a branch of the Midland route), most of the grading and masonry has been completed, nearly to the cross station Norwood, on the Erie Railway. There are two tunnels. One, near the western bank of the Nevasink River, is to be about 1,000 feet in extent, of which nearly 400 feet have already been excavated,

out of hard, conglomerate rock. The other tunnel is more extensive and will pierce the grim old Shawangunk Mountains to a distance of 3,800 feet, through coarse sandstone and conglomerated rock. On the western side a distance of about 150 feet have been excavated by hand labor. On the eastern side nearly 1,100 has been excavated by steam drills, which are more expeditious but not less expensive than manual labor. The rock on this side is hard black slate. Present appearances indicate an early completion of the Midland route, and the prospect induces a hope that regular trains will be running through from New York to Oswego before 1871.

When in full operation this road will develop the hitherto almost untouched resources of one of the most fertile agricultural districts of the State. Portions of Ulster, Sullivan, Oneida, Otsego, Madison, Chenango, and Delaware counties will reap much benefit from the opening of this new line of direct communication to every point, and especially with this great metropolis.—*Tribune*.

Central Pacific Railroad.

Messrs. Fisk and Hatch, agents of the Central Pacific Railroad, have issued a circular to the Bondholders of the Company, giving a full account of the road, and of the hands, rolling stock, &c., belonging thereto. The following items are of general interest:

The line of the road extends from Ogden to Sacramento, making 742 miles in all. The earnings of the road from Jan. 1 to May 1, 1869, derived almost wholly from local business, with an average of less than 450 miles in operation, were as follows, viz: Gross earnings, \$1,306,943; operating expenses, \$824,044; net earnings, \$482,899. The earnings from May 1 to December 31, the first eight months of the through connection, were as follows, viz: gross earnings, \$4,442,652; operating expenses, \$2,198,197; net earnings, \$2,244,455; the aggregate net earnings for the year 1869 being \$2,727,354, in gold. This result, gratifying as it is, forms but a very inadequate criterion from which to judge of the future earnings of the road. The sources whence these revenues are derived are shown in the following table of the receipts for the month of September, last:

Passengers.....	\$302,259 29
Freight.....	262,250 32
Express.....	15,704 83
Mail.....	15,258 20
Wharf.....	1,250 95
Miscellaneous.....	1,023 21
Telegraph.....	552 69
Sleeping cars.....	11,498 41
Total, in coin.....	\$609,787 90

It is proper to add that nearly 70 per cent of the receipts are from local business. During the first four months of the year the road was incomplete, there was no through traffic, and the rolling stock was required to a great extent in transporting materials for the rapid construction then in progress. The amount of First Mortgage Bonds which the company can issue upon the road is limited by law to about \$26,010,000. The annual interest on these is but \$1,560,000. The cost of the road and equipment has been, in round numbers, \$70,000,000. It is in good order, thoroughly and liberally equipped, and is pronounced by competent and disinterested judges who have carefully examined it to be one of the best

and most satisfactory railroads in the world. The equipment is as follows, viz: 130 passenger cars, which cost \$544,400; 21 sleeping cars, \$262,500; 160 locomotives, \$2,240,000; 25 baggage, post-office, and express cars, \$62,500; 3,572 freight cars, \$3,214,800; machine shops, depots, &c., \$1,050,000. Total value of equipment, \$7,374,200.

The rails, chairs, spikes, structures, &c., composing the track of the road, would be worth in San Francisco, to-day, at least \$10,000,000, so that the movable material on the surface is alone equal to two-thirds the amount of the First Mortgage Bonds. In addition to the railroad, its franchises, right of way, road bed, and equipment, the Company own 7,500,000 acres of land along and adjacent to the line of the road. While some of these lands are of little value, a considerable portion are worth from \$50 to \$100 per acre. At the low average estimate of \$2 per acre, they are worth \$15,000,000. These lands are entirely unencumbered, and are rapidly increasing in value. Though not included in the mortgages, this item is of interest to the bondholders as an element of strength and wealth to the Company, whose good faith, as well as the property named in the mortgage, is pledged for the redemption of the bonds, and as an important item in the resources at their command. From sales of land alone, within the next ten years, the Company could provide a sinking fund sufficient for the redemption of its entire bonded debt. The bonds issued by the Company are as follows, viz:

Seven per cent bonds, 1882....	\$1,500,000
Seven per cent State Aid bonds, on which the interest is paid by the State of California....	1,500,000
Six per cent First Mortgage bonds.....	26,010,000
Total Funded Debt.....	\$29,010,000

Sinking Funds are provided toward the redemption of the loans, which will go into operation in 1870 and 1872. An amount sufficient for these several Sinking Funds will be reserved from the earnings of the road each year, and invested in the Bonds of the Company, so long as they can be purchased in the market at a price not exceeding that of the Bonds of the United States.

Baltimore & Ohio Railroad.

"Tall oaks, from little acorns grow."

The following extract from *Nile's Register* for May 15, 1830, gives an account of the first American experiment in railroading:

"The Baltimore and Ohio Railroad will be traveled in wagons, thirteen miles to Ellicott's upper mills, in a day or two, at the rate of at least ten miles an hour. Tens of thousands will embrace the opportunity of seeing the noblest work yet attempted in the United States, of traveling twenty-six miles in two and one-half hours, without danger of fatigue, of enjoying the fresh air, and passing through one of the most romantic and beautiful countries we have,—every minute presenting something new to be admired by strangers on the road. The wagons will start on different hours in the day, and soon, perhaps, hourly. Each wagon drawn by one horse will carry from twenty-five to thirty persons with entire convenience. The thirteen miles will be divided into two stages, for a change of horses, which may be effected in about half a minute, from the excellency of the gearing. The fare will be moderate."

Railroad Items.

—In regard to projected and contemplated railroad enterprises in Texas, the *State Gazette* says: "Railroads will be the first agitation after reconstruction in Texas. The probability is that the first session of the Legislature will be called on to renew and grant more charters for railroads than any five previous sessions. San Antonio will seek access to the Gulf; the road now extending from Harrisburg to Columbus will be pressed on to San Antonio. The Austin Air-line is now in progress, and so is the Waco Tap and the Central extension. The Waco Tap will not stop long at Waco. Bell and other counties north and west want an outlet to the Central and will have it. Colonel Morgan has made propositions that will insure an early, but we shall feel it a very late, completion of the Houston and New Orleans roads. A proposition has been made by responsible parties, on terms that will pay the people, to build a railroad from Houston to Tyler direct, and on to Red River. This road is very badly needed, and will accommodate more people than any one road in contemplation. There are one or two important roads that will point from Eastern Texas to New Orleans, unless Houston and Galveston wake up and rub the dust out of their eyes a little faster than they are likely to do. Then comes the great cross lines pointing from the north and east to the Pacific Ocean. One of these seeks a route near the coast, another from Cairo via Fulton, and pointing in a direct line across the State, through Mexico to the Pacific, will pass between Nevasota and Calvert, and will be of immense value to the State and to its projectors. General Barnes, Col. Camp, and others are pressing this enterprise with very flattering prospects of early success. Another cross route will pass from Vicksburg and through or not far from Tyler and Waco; and another, so far as legislation is concerned in advance of the rest, is the Memphis, El Paso and Pacific road. Chicago via Kansas has an eye on Texas, and some road will be pressed from Kansas and Missouri to the Gulf."

—About one hundred railroad bills are now pending the action of Congress; three are from Arkansas—one 350 miles long, one 900, and the third is projected from Cairo to the Mexican boundary, near Presidio del Norte, on the Rio Grande, with a branch to Lawrence, Kansas. Louisiana has three bills; one on the "Pacific Central Transit Railway," from New Orleans to the Rio Grande, 700 miles long, for which only the right of way with 8400 acres is asked. The Southern Pacific road, on or near the 32d parallel, is 1900 miles long, and asks four hundred feet for right of way, and forty sections to the mile; a total of 48,685,600 acres, together with a guarantee of the interest on \$32,000 per mile—a total of \$60,800,000. Mr. Nye, of Nevada, has a bill for a road from Galveston, Texas, to Fort Gibson, with a branch at Little Rock, Arkansas. The distance is 700 miles.

[Modesty is on the increase.]

—At the annual meeting of the stockholders of the Junction Railroad Company, held at Connersville, on Monday, the 3d inst., the following gentlemen were elected Directors for the ensuing year by unanimous vote: David T. Harris, of Muncie; J. M. Ridenour, of Indianapolis; William Becket, of Hamil-

ton; C. J. Acton, L. Worthington, J. W. Donohue, Wm. H. Chatfield, of Cincinnati.

At a meeting of Directors, at the office of the Company in this city, yesterday, for organization, the following officers were elected: L. Worthington, President; W. W. Worthington, Secretary and Treasurer; Alexander Humphrey, Auditor; James H. Sheldon, General Superintendent; J. A. Semple, Freight and Ticket Agent.

—The laying of rails on the Nyack and Piermont line was commenced on Thursday. The grading has been in progress for some time past. There are no great difficulties either of excavating or filling. The distance between Nyack and Piermont is about five miles, most of which is unbroken by hills of any extent. Formerly communication with the metropolis was found solely in the line of the Hudson River steamers, then by lumbering stages to Piermont—the Erie station, or eight miles over a stony road to Spring Valley, on the line of the New Jersey Northern Railroad, about 30 miles from New York. This new route is expected to be in complete running order before Spring.

—At the annual election of the Cleveland and Pittsburgh Railroad Company to day the following compromise ticket, representing the interest of Pennsylvania Central, Pittsburgh, Fort Wayne and Chicago and Erie, was unanimously elected; J. M. McCullough, C. H. Andrews, Thos. A. Scott, Jay Gould, Geo. W. Cass, James Fisk, jr., J. H. Deveraux, Wm. M. Tweed, Peter B. Sweeney, L. D. Rucker, Hugh Smith, Henry Harley.

—The total earnings of the Lake Shore and Michigan Southern Railroad for the past year show an increase of \$732,000 over 1868.

Gov. Geary's Message—Pennsylvania.

The message of Gov. Geary of Pennsylvania was presented to the Legislature yesterday. The condition of the State Treasury is as follows:

Balance in Treasury Nov. 30, 1869.....	\$1,012,925 37
Ordinary receipts during the fiscal year ending Nov. 30, '69.	5,241,711 28

Total in Treasury during year ending Nov. 30, 1869....	\$6,254,636 75
Disbursements	4,853,774 16

Balance in Treasury Nov. 30, 1869.....	\$1,400,826 49
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The following is a statement showing the nature of the indebtedness of the State on Nov. 30, 1869:

Funded debt, viz:	
6 per cent loans.	\$26,311,180 00
5 per cent loans.	7,277,384 38
4½ per cent loans.	112,000 00
	\$32,700,564 38
Unfunded debt.....	113,976 57

Amount of public debt Nov. 30, 1869.....	\$32,814,540 95
The public debt on Nov. 30, 1868, was.....	33,286,947 13

The reduction in the public debt during the year ending November 30, 1869, amounts to \$472,406 18.

PUBLIC SCHOOLS.

There are within the State 1,971 school districts; 13,936 schools; 2,445 graded schools;

12,900 school directors; 76 superintendents; 17,142 teachers; and 815,753 pupils. The average cost of tuition for each pupil is 97 cents per month. The whole cost of tuition for the year is \$3,500,704 26. Total cost, including expenditures of all kinds during the year, \$6,986,148 92. Estimated value of school property, \$14,045,632.

New York Canals.

FINANCIAL CONDITION.

The Auditor submits the following tabular view of the comparative aggregate receipts in each of the last four fiscal years, and the payments for ordinary expenses of the canals during the same period, for the purpose of explaining the causes of diminution in receipts for the last year of the period, ending Sept. 30, 1869, the fiscal year closing at that date:

	1866.	1867.
Receipts from tolls, etc.....	\$4,309,746 12	\$4,050,357 79
Payments to superintendents and contractors for repairs	978,258 69	761,196 03
Payments by Canal Commissioners for repairs	255,265 20	313,681 83
Payments to collectors, weighmasters, and assistant collectors	85,890 65	87,993 00
Refunding tolls, salaries, etc...	53,121 98	57,321 74
Overdraft on Champlain Canal.....	62,453 21

Total expense....	\$1,434,989 73	\$1,220,192 65
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Net receipts.....	\$2,874,756 39	\$2,830,165 14
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	1868.	1869.
Receipts from tolls, etc.....	\$4,477,546 17	\$4,161,280 10
Payments to superintendents and repair contractors.....	775,409 76	867,412 27
Payments by Canal Commissioners for repairs.....	241,647 18	267,076 10
Payments to collectors and their assistants, and weighmasters.....	90,108 81	90,039 03
Refunding tolls, salaries of officers, etc.....	77,079 29	53,980 12

Total expense for the year....	\$1,184,246 04	\$1,273,507 52
Net receipts....	3,293,301 13	2,882,772 58

The decrease of toll receipts in the last fiscal year, and the increase of expenditures, as compared with the previous year, are as follows:

Decrease in tolls.....	\$316,266 07
Increase of expenditures.....	94,262 48

Showing decrease in net receipts.....	\$410,523 55
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The Auditor accounts for the deficiency of the last year, as compared with the previous one, by mentioning the following as the most prominent causes, namely: The late opening of the canals for navigation in Spring, the short corn crop, the deficient supply of coal, the unremunerative markets for wheat and flour, and the reduction of tolls, producing no equivalent increase of tonnage. The increased expenditures is attributed by him to the sums required for repairing extraordinary damages, and also to "salaries paid to Superintendents and their clerks," which officers, by the by, he considers needless, and worse—differing therein from some of the zealous canal reformers—for reasons which may be quoted hereafter from his report.

THE CANAL DEBT—THE GENERAL FUND, ETC.

The Canal Debt, of which much is often said with various purposes, appears to be \$12,546,620. By this is meant the debt due to outsiders, who hold certificates drawing interest at an average of a fraction less than six per cent., to which must be added a sum due to the Treasury of the State, known as the "General Fund Debt" and amounting now to about \$3,000,000, it having been reduced to that amount by the payment of \$1,500,000 during the last fiscal year. But, against these liabilities must be placed over \$3,000,000 now in sinking fund, for paying the outstanding stock debt. So that the whole liabilities of the Canal system may be stated in round numbers at about \$12,000,000, though the General Fund Debt is more a debt of show than substance—a debt payable, and which should be paid, from one drawer of the State Treasury into another. The real outstanding debt—that represented by stock, held partly in Europe as well as in this country—is virtually only about \$9,333,000, inasmuch as there is enough in Sinking Fund to reduce it to that amount as fast as it falls due.

The outstanding stock debt at the close of the last fiscal year was held as follows: In the United States, \$10,352,621; in foreign countries, \$2,211,999, making the aggregate \$12,564,620; and it matures thus: In 1872, \$2,442,400; in 1873, \$5,451,800; in 1874, \$3,297,420; in 1875, \$485,000; in 1877, \$888,000—to meet which, as before said, there is about one quarter of the whole sum provided in sinking funds for payment.

BESSEMER STEEL MAKING IN FRANCE.—The total production of Bessemer steel rails in France in the first six months of 1869, amounted to 19,755 tons, against 10,562 tons in the corresponding period of 1868; it is probable that the French production of this description of rails will show a still further advance in the second half of 1869 as large orders have been given out during the last two or three months by the great French railway companies. Among the more recent orders of steel rails we may mention one for 2,000 tons given by the Orleans Railway Company to the Creusot Works, at 11½ 7s 2d per ton, and another for 3,000 tons, given by the Western of France Railway Company to the Terrenoire Works, at 11½ 10s. 3d. per ton.

IN New York city there were one hundred and eleven cases of suicide during the year 1869, eighty of whom were males and thirty-one were females. Of the above 50 were Germans, 25 Americans and 20 Irish; the nationalities of the remaining 16 are not stated.

Travel in Europe—Mount Cenis.

[Correspondence Cincinnati Gazette.]

ROME, Dec. 7, 1869.

So here goes for the Mount Cenis route with the hazard of getting stuck in a snow drift. But who would not rather die the proverbially delightful death by snow, than live for 40 hours after you are dead of sea sickness? However, fortune favors the cowardly. We had what Paul wanted—a prosperous journey to Rome.

The time is about 60 hours from Paris but we don't keep at it. Keeping at it is quite unknown in this old world. It is only in the new world where the art of keeping at it is known. There is a leisureliness in continental traveling very tantalizing to Americans in Europe, whose capacity for "doing" things makes one wonder whether they are not "birth-marked"—that is to say, their mothers may have been obliged to do some skedaddling once upon a time. The trains run with great regularity, uniformity and all that, but when they stop they stop. People have enough time to get out and get in. You never see here what you often see in our land of the free, the exit stream and the enter stream locked in one another's anything but affectionate embrace, on the platform of the car. You can not get into the (what we call) depot, until within about five minutes of the starting time. You wait in the reception room until the door is unlocked. At the small places there are gates. When the arrivals are let out at one of them the departers are let in at the other.

As you roll up to a station you hear a tiny bell tinging. It is a telegraph bell. It says in its own sweet little way all is well. The starting of the train at one station is always known at the next.

The precautions are a study. Human life is imagined valuable. Europe shudders at American "quotations" for human life. An eruption of Vesuvius does not startle Europe like an explosion of a boiler on a Mississippi steamer. The former they think is Providence, the latter improvidence. A question for philosophers—Why should human life be quoted higher in a country where the people govern themselves than in a country where the people are governed by kings?

The Mount Cenis route is abundant in interest. Your ride over the mountain is huge. Snow everywhere and more falling, but the track is open—a fact which ought not to be a fact. One would suppose that a squall of a night would put an end to the railway for the winter, but last winter we were told the track was open all winter. When it is closed you are conveyed over by diligence. This track running over the mountain is a scientific miracle, but what will it be when it runs under the mountain?

Going over Mt. Cenis you go up a grade which sometimes reaches one foot in every 11, or nearly 91 in 1,000. This is an unprecedented railway gradient, and is very diverting to travelers who are accustomed to the venerable nonsense that steam is incapable of propelling any thing on any but a level surface. The highest point we reach is 6,890 feet above the level of the sea. St. Michel, where we begin the ascent on the French side, is 2,223 feet above the sea, and Susa, on the Italian side, 1,690. So that, in a distance of twenty-five miles, we ascend 4,567 feet and descend 5,200 feet.

We must all get out and examine the engine and track, both of which have peculiarities,

of course. On the ascent there is a third rail, rising several inches above the other two rails, and containing cogs, of which horizontal cog wheels on the locomotive take hold; and so, like all good Christians, track and engine bear one another's burdens. We ask the engine driver some questions in bad French, and he answers in good English. He is an Englishman. So is Mr. Fell, the head center of this whole enterprise. Whereupon the old lady from Canada wants to know if the world could get on anyhow without Anglo-Saxon brain and brawn. And the Frenchman, in specs and mustache, begs to remind madam that "Ze engineer of ze tunnel and of ze Suez Canal is a Frenchman."

The tunnel under Mount Cenis is above all adjectives. We gazed upon the dark hole with amazement. Its length is to be 12,220 metres, or nearly eight miles. More than 900 metres are completed. The work goes on at the rate of about 115 metres a month. It is to be done according to the contract by the first of January, 1872.

The scenery, as well as the atmosphere of Mt. Cenis, is exhilarating. As you go worming up and down and around the mountain you get some sweeps of landscape which make your soul rise, and some peeps of ravine just under the window which make your hair stand. The Canadian lady declared it was quite nothing at all, but her twin daughters sank back into their seats with a twin shriek of the most approved modulations, which awoke the head of the family out of a sound nap only to return into the same again immediately.

The road winds like a cork-screw. The young fellow from Albany tells the twins that we "ought never to run down after such a winding up." This is a joke. The tall pines are heavy with snow. If they should "fall in," and step off, what a stately army they would make. Sometimes the hoary-headed mountains bulge up close to the train, and threaten to squelch us. Then they fall back, and a glorious expanse of valley stretches out below us. The snow ceases to fall. The clouds dissolve and the sun shines. It is a feast. The imagination luxuriates in it. There is the fort of Esseillon, covering a towering clump of cliff. It is very imposing, and the French officer says as impregnable as any fort in Europe. There is a large hospice which was rebuilt by Napoleon I. The Mountain of Rocca Melone looks like one of the pyramids of Egypt. On its summit stands the "Chapel of Our Lady of Snows." Beautiful name, is it not? The Canadian twins think so, and the young fellow from Albany asks them "how they would like to attend service there." They are boreously literal young women, and answer simply and gravely that they would not. To this chapel the pious mountaineers make an annual pilgrimage.

At Susa we arrive at about 7 P. M. We can not leave till 10.30. This a continental "connection." The proprietor of the restaurant at the Susa Station ought to be starved to death when the time comes for to die. He charged us about \$1.50, gold, for dinner. I authorized an Italian-speaking companion to tell him that I should publish his extortion. So I do. Send the shark his copy of the *Gazette* with this paragraph marked.

No sleeping cars. Europe has no Pullman. But the first-class carriages are elegantly gotten up, and you really can make yourself very comfortable in them. Some of them are in saloon form, with seats for twelve, and I must say I passed a more agreeable night sitting in one of their soft roomy seats than I

ever did lying in a railway berth at home. You must take a first-class ticket on the Continent if you are going a long journey, or you will be waked up some midnight by a guard who informs you that the first class carriages have gone on and yours has not. I once spent the delightful hours from 11 to 1 at night, in a railway station, as a penalty for riding second-class.

The scenery from Turin to Florence is continuously captivating. It is eminently Italian, if you know what that means. I am sure I do not. But I think one has a mind full of softness, grace and tranquility when one thinks of Italy.

Railroad Companies Responsible for Damages to their Employees.

The result of a recent trial in the Circuit Court of Cook County, Illinois, is quite interesting to railway men. One Nicholas Troesch, formerly a conductor of a switching train on the Columbus, Chicago and Indiana Central Railway, sued that company for damages on account of injuries received while in its services. An abstract of the trial is given, in which it appears that the plaintiff was in the employ of the company as a conductor of a freight train. On the 29th of September a year ago while acting as such conductor, in the performance of his duty, he signalled the engineer of his train to slacken the speed. The engineer received the signal, and sought to obey it; but it is charged that, owing to a defect of the machinery of the engine, it came to a stop so sudden and with such a jerk that plaintiff was thrown from his position in the car he occupied, on to the track, and this, too, in such a position that the wheels of the vehicle passed over and crushed his right arm and left leg which were afterwards amputated. The cause was given to the jury, under instructions, which, upon the main point, the right of an employe to sue in such a case, stated:

That, if the defendant employed or permitted to be employed an unsafe or insufficient locomotive, which it knew, or ought to have known by the exercise of reasonable inquiry and diligence, was unsafe, and the plaintiff was injured without any fault of his, and while he was employed by the company, then plaintiff could recover. So, if the engineer of the switching train was habitually careless, reckless, or negligent, and the company should by reasonable diligence have known that he was such, and the plaintiff, exercising reasonable care, was injured through the act of this engineer, then the company was accountable. But if the accident happened by reason of a single act of carelessness on the part of the engineer, being otherwise careful, the plaintiff could not recover, for that an employe takes the risk, as a part of his contract with his employer, of the occasional carelessness of his fellow employes and this same rule would apply to the machinery in use.

The jury found the defendant guilty, awarding to the plaintiff \$10,000 as damages.

SUEZ CANAL TOLLS.—The toll for the passage each way through the canal of a vessel of 1,000 tons, drawing 17 feet of water, is £560 Sterling, or about \$3,360 gold.

There were 13,986 patents issued during the year 1869, in the United States. This is sufficient testimony of the inventive genius of the American people.

Commerce of the World.

France exports wine, brandies, silks, fancy articles, furniture, jewelry, clocks, watches, paper, perfumery, and fancy goods generally.

Italy exports corn, oil, flax, wines, essences, dye stuffs, drugs, fine marble, soap, paintings, engravings, mosaics, and salt.

Prussia exports linens, woollens, zinc, articles of iron, copper and brass, indigo, wax, hams, musical instruments, tobacco, wine, and porcelain.

Germany exports wool, woolen goods, linens, rags, corn, timber, iron, lead, tin, flax, hemp, wine, wax, tallow, and cattle.

Austria exports mineral, raw and manufactured silk thread, glass, wax, tar, nut gall, wine, honey, and mathematical instruments.

England exports cottons, woollens, glass, hardware, earthenware, cutlery, iron, metallic wares, salt, coal, watches, tin, silks and linens.

Russia exports tallow, flax, hemp, flour, iron, copper, linseed, lard, hide, wax, duck, cordage, bristles, furs, potash and tar.

Spain exports wine, brandy, oil, fresh and dried fruits, quicksilver, sulphur, salt, cork, saffron, anchovies, silks and woollens.

China exports tea, rhubarb, musk, ginger, borax, zinc, silks, cassia, filigree work, ivory ware, lacquered ware and porcelain.

Turkey exports coffee, opium, silks, drugs, gums, dried fruits, tobacco, wines, camel's hair, carpets, shawls, camlets and morocco.

Hindustan exports gold and silver, cochineal, indigo, sarsaparilla, vanilla, jalap, fusitic, Campeachy wood, pimento, drugs and dye stuffs.

Brazil exports coffee, indigo, sugar, rice, hides, dried meats, tallow, gold, diamonds and other precious stones, gums, mahogany and india rubber.

West Indies export sugar, molasses, rum, tobacco, cigars, mahogany, dye wood, coffee, pimento, fresh fruits and preserves, wax, ginger and other spices.

Switzerland exports cattle, cheese, butter, tallow, dried fruit, linen, silks, velvets, lace, jewelry, paper and gunpowder.

East India exports cloves, nutmegs, mace, pepper, rice, indigo, gold dust, camphor, benzine, sulphur, indigo, ivory, rattans, sandal wood, zinc and nuts.

United States exports principally agricultural produce, cotton, tobacco, flour, provisions of all kinds, lumber, turpentine and wearing apparel.—*New York Commercial Advertiser.*

In Chicago, during the year 1869, seven hundred and twenty-three suits were commenced, and 496 decrees of divorce granted. Of the suits brought, 269 were by husbands and 454 by wives.

Last year 25,000 emigrants came to Chicago on the Michigan Central Railroad.

New York city is being convulsed with the enormities of stump tail and swill milk.

In 1868, Great Britain imported in specie value \$1,470,000,000. The total exports for the same period were \$1,140,000,000. Excess of imports over the exports \$330,000,000.

—It is understood that the Bostonians are to employ Chinese laborers in the construction of the Cape Cod canal.

PRESERVATION OF WOOD AND STONE.—A writer in *Cosmos* gives some facts in regard to the preservation of wood by solutions of salts of copper. He has in his possession wooden water-wheels which have been in use for more than 1,500 years for removing water from a copper mine. These wheels are about eighteen feet in diameter; and an analysis by M. Payen of a portion of the wood shows that it is perfectly sound, and is partly converted into a compound of cellulose and copper.

It appears, moreover, that the decay of stone may be prevented by the black oxyd or the salts of copper. M. Robert has proved that the decay of granite, marble, limestone, sandstone, and other building stones is largely due to a very minute lichen (*Lepora antiquitatis*), and that this cryptogamic plant does not grow upon the stone pedestals of bronze statues, or those parts of buildings to which bronze or copper ornaments are fastened. In such cases the stone is protected by the salts of copper, which are gradually formed under the influence of the weather, and are washed down by the rain; these compounds being poisonous to the plants. Abundant illustrations of these facts were found among the old buildings of Paris, and they are very important on account of the length of time which has elapsed since the protective action of the copper compounds began.

As addendum to this may be mentioned a new method of preserving wood, described in the "*Neues Jahrbuch fur Pharmacie.*" Herr Reinsch states that, having been requested to report to a fire insurance company about the best means of preventing timber bursting into flame, he experimented with various salts, and at last came to the conclusion, as the result of his experiments, that impregnating timber with a concentrated solution of rock-salt is as good, if not better, a preservative against its bursting into flame as water-glass (silicate of soda), while the price of the former salt is, of course, only a mere trifle; moreover, rock salt thus applied to timber is a preservative against dry rot and noxious insects.—*Artisan.*

THE WEALTH OF CALIFORNIA.—From figures furnished by the State Comptroller, it seems that the assessment of real and personal property in all the counties of California, for the current year, aggregate \$258,046,335, a net gain over the previous year of \$21,105,880. In the thirty-two agricultural and commercial counties there was a gain of \$26,338,900 in twenty seven, and a loss of \$1,273,855 in five, leaving a net gain of \$25,062,123. Of the eighteen mining counties only two show a gain, amounting to \$266,296; while sixteen show a loss of \$1,224,539, leaving a net loss of \$3,958,243; reducing the net gain for the whole State as above.

Fresh Garden, Flower, Fruit, Herb, Tree, Shrub and Evergreen Seeds, with directions for culture, prepaid by mail. The most complete and judicious assortment in the country. Agents wanted.

25 Sorts of either for \$1.00; prepaid by mail. Also Small Fruits, Plants, Bulbs, all the new potatoes, &c., prepaid by mail. 4 lbs. Early Rose Potato, prepaid, for \$1.00. C. Meyer's Colossal Asparagus, \$3 per 100; \$2.1 per 100, prepaid. New hardy fragrant everblooming Japan Honeysuckle, 50 cts. each, prepaid. True Cape Cod Cranberry, for upland or lowland culture. \$1.10 per 100, prepaid, with directions. Priced Catalogue to any address, gratis; also trade list. Seeds on Commission. B. M. WALES, Old Colony Nurseries and Seed Warehouse, Plymouth, Mass. Established in 1822. 6-1-70, 17.

VICK'S Floral Guide for 1870.

THE FIRST EDITION OF ONE HUNDRED AND TWENTY THOUSAND copies of **Vick's Illustrated Catalogue of Seeds and Floral Guide**, is published and ready to send out. It is elegantly printed on fine tinted paper, with about 200 fine wood Engravings of Flowers and Vegetables and a beautiful COLORED PLATE—consisting of seven varieties of Phlox Drummondii, making a fine

BOUQUET OF PHLOXES.

It is the most beautiful, as well as the most instructive Floral Guide published, giving plain and thorough directions for the

CULTURE OF FLOWERS AND VEGETABLES.

The Floral Guide is published for the benefit of my customers, to whom it is sent free without application, but will be forwarded to all who apply by mail, for TEN CENTS, which is not half the cost.

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A Clergyman, while residing in South America as a missionary, discovered a safe and simple remedy for the cure of Ne. vous Weakness, Early Decay, Diseases of the Urinary and Seminal Organs, and the whole train of disorders brought on by baneful and vicious habits. Great numbers have been cured by this noble remedy. Prompted by a desire to benefit the afflicted and unfortunate, I will send the recipe for preparing and using this medicine, in a sealed envelope to any one who needs it, *Free of Charge*.

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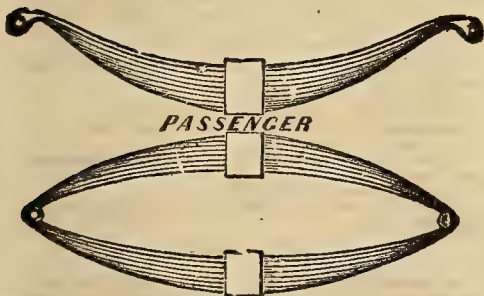
JOSEPH T. INMAN,
Station D, Bible House,
NEW YORK CITY.

7-10-9, 13.

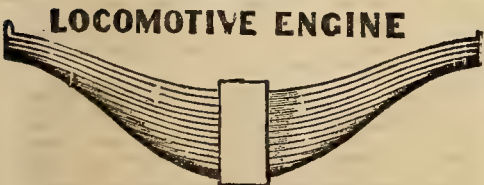
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CINCINNATI to NEW YORK, - 860 Miles.
CLEVELAND to NEW YORK, - 625 Miles.
DUNKIRK to NEW YORK, - 460 Miles.
BUFFALO to NEW YORK, - 423 Miles.
ROCHESTER to NEW YORK, - 385 Miles

AND IS FROM

22 to 27 MILES the SHORTER ROUTE.

TWO EXPRESS TRAINS DAILY

Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS,

(Sundays excepted.) Arrive Dayton 9.10 A. M.; Urbana, 10.29 A. M.; Galion, 12.57 P. M.; Mansfield, 1.40 P. M.; West Salem, 2.48 P. M. (Dine). (Sleeping Coaches through to New York); Akron, 4.21 P. M.; Ravenna, 5.05 P. M.; Meadville, 7.55 P. M. (Supper); Susquehanna, 8.10 A. M. (Breakfast); Turner's, 2.07 P. M. (Dine); New York, 4.10 P. M. Connects at Ravenna with Cleveland & Pittsburg Railroad for Hudson and Cleveland; at Elmira for Williamsport and the South; at Binghamton for Cooperstown, Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.26 A. M.; Galion, 4.00 A. M.; Mansfield, 4.44 A. M.; West Salem, 5.56 A. M. (Breakfast); Akron, 7.33 A. M.; Ravenna, 8.20 A. M.; Meadville, 11.16 A. M. (Dine); Hornellsville, 6.19 P. M. (Supper); New York, 7.10 A. M. Connects at Mansfield with Pittsburg, Ft. Wayne & Chicago Railway for Pittsburg, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities.

New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through **860 Miles without Change**.

Boston and New England Passengers, with their Baggage, are transferred FREE OF CHARGE in New York.

[[The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

[[The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

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W. E. SHATTUC,
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GRAND SCENERY!**QUICKEST ROUTE****59 Miles in Distance Saved.****Baltimore & Ohio R.R.**

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NEW YORK, and
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WASHINGTON**FREE!****NO CHANGE OF CARS**From Cincinnati to **Baltimore** and but ONE
or Columbus to **Philadelphia and New York.** CHANGE toAsk for **TICKETS** and **BAGGAGE CHECKS** via **Baltimore & Ohio R.R.****L. WILSON, Master of Transportation.**
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Trains run as follows, Sundays excepted:

	DEPART.	ARRIVE.
Indianapolis & Cambridge City.....	7 00 A. M.	9 20 P. M.
Toledo & Detroit.....	7 00 A. M.	9 20 P. M.
Dayton & Sandusky Mail.....	7 00 A. M.	5 25 P. M.
Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City.....	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....	.....	6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
Hamilton Accommodation.....	7 00 P. M.	7 55 A. M.

Trains run **SEVEN MINUTES FASTER** than Cincinnati time.

For all information and through tickets, please apply at head office, south-east corner of Broadway and Front; or at House Office, corner Vine and Baker streets, and at the respective depots. East Front and West Sixth streets.

P. W. STRADER, General Ticket Agent.
Omnibuses call for passengers**JANUARY 5th, 1868.****Cincinnati to St. Louis Without Change of Cars.****Ohio & Mississippi Railroad,**

For St. Louis, Cairo, Louisville, Evansville, St. Joseph, Jefferson City, and all points on the Lower Mississippi River, and on the the Illinois Central Railroad.

TRAINS RUN AS FOLLOWS:

	Morn. Ex.	Eve Exp.	Seymour Acc.
Leave CINCINNATI, 7 40 a.m.	10 10 p.m.	4 00 p.m.	
Arrive SEYMOUR, 12 00 a.m.	2 00 a.m.	8 10 "	
Leave " 12 30 p.m.	2 10 "		
Arrive VINCENNES, 5 15 "	6 35 "		
Leave " 5 20 "	6 40 "		
Arrive ODIN, 9 35 "	10 30 "		
Leave " 9 45 "	10 40 "	6 30 a.m.	
Leave SANDOVAL, 9 55 "	10 50 "	6 40 "	
Arrive ST. LOUIS, 1 00 "	1 30 p.m.	9 40 "	
Trains Arr. at C. O. H., 6 10 a.m.	11 30 p.m.	12 00 m.	

For tickets, or information apply at Offices, 132 Vine street, Corner Front and Broadway and at Depot, Foot Mill Street.

C. E. FOLLET Gen. Passenger Agent
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Memphis, New Orleans, Springfield, Quincy, Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West, North west and South-west.

ON AND AFTER SUNDAY, JULY 25TH, 1869, TRAINS WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

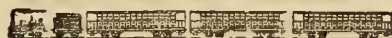
	Leave.	Arrive.
Indianapolis and Lafayette Mail....	6.30 am	12.20 am
St. Louis and Springfield Express....	3.35 pm	8.20 am
St. Louis and Springfield Express. 1 st 35 pm	3.35 pm	3.30 pm
Lawrenceburg Accommodation.....	10.00 am	2.35 pm
Lawrenceburg Accommodation.....	4.45 pm	8.05 am

*The 10.35 pm. train will leave Sundays, but not on Saturdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail.....	7 00 am	10.00 am
Chicago Express.....	6 10 pm	9.40 pm
Harrison Accommodation.....	6.10 pm	6.40 am

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & C. Railroad is about a mile northwest of business center of the city, at the Depot of any other railroad and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.**Philadelphia, Wilmington & Baltimore**
RAILROAD!**FOUR PASSENGER TRAINS DAILY****TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY**1.15 (Express Monday excepted); 8.15 A. M.; 11.45 A. M. (Express); 2.30 P. M.; 11.30 P. M. night.
On Sundays 4.30 A. M.; 11.30 P. M.
Leave Baltimore for North and West 7.35 A. M.; 7.20 A. M. (Express); 1.10 P. M. (Express); 6.35 P. M.; 8.2 P. M. (Express)**SUNDAY TRAINS**—Leave Philadelphia for Baltimore at 4.15 A. M., and 11.00 P. M. Leave at Baltimore for Philadelphia at 8.25 P. M.
Leave Philadelphia for Wilmington at 11.30 P. M. Leave Wilmington for Philadelphia at 8.30 P. M.**The Old And Reliable Route.****Through to Pittsburg without Change.**The **PITTSBURG, FORT WAYNE & CHICAGO RAILROAD**, in connection with the Cincinnati, Hamilton & Dayton, and Little Miami Railroads, still continue to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bills of Lading, or any information desired, shippers will please apply to

H. W. BROWN & CO.,
No 27 West Third Street, Cincinnati.**W. P. SHINN, General Freight Agent.**
Pittsburg, Pa.**LOUISVILLE & CINCINNATI**
SHORT-LINE RAILROAD.**Time only 5 hours****Fare Only \$3.50—Transfer from Hotel or Residence to Depot, in Covington, Free.****THE SHORTEST ALL-RAIL ROUTE TO**
Louisville, Nashville, Memphis, New Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail.....	7.00 A. M.	2.30 P. M.
Evening Express.....	5.45 P. M.	9.10 P. M.
Walton Accommodation.....	4.00 P. M.	9.30 A. M.

The 7.00 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on the Walton Accommodation, offer great inducements to the citizens of Cincinnati and Covington who wish to purchase country residences or small farms for gardening. This train leaves late in the afternoon, and arrives early next morning, giving all day to attend to business. For further information as to routes, low fare, &c., please apply at No 1 Burnet House, or Depot, Covington, Ky.

SAM'L GILL, Gen'l Sup't. Louisville.**CENTRAL R. R. OF NEW-JERSEY.**

Passenger and Freight Depot in New York, foot of Liberty st., connects at H mpton Junction with the Delaware, Lackawanna and Western Railroad, and at East on with the Lehigh Valley Railroad and its connections, forming a direct line to Pittsburg and the West, without change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago, Cincinnati, St. Louis, etc., with but one change of cars. Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk, Williamsport, Wilkesbarre, Mahanoy City, Tuckahoe, &c.
7:15 a. m.—For Somerville.
8:30 a. m.—For Flemington, Junction, Stroudsburg, Water Gap, Scranton, Kingston, Pittston Great Bend, &c.
12 m.—For Flemington, Easton, Allentown, Mauch Chunk, Wilkesbarre, Reading, Columbia, Lancaster, Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.
3:30 p. m.—For Easton, Allentown, Mauch Chunk and Belvidere.
4:30 p. m.—For Somerville.
5:25 p. m.—For Somerville and Flemington.
6 p. m.—For Easton and intermediate stations.
7 p. m.—For Somerville.
7:20 p. m.—EMIGRANT—Stopping only at the principal stations.
9:00 p. m.—For Plainfield.
11:50 p. m.—For Plainfield, on Wednesdays and Saturdays only.**FOR THE WEST.**

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,) for Easton, Allentown, Harrisburg, and the West without change of cars to Cincinnati or Chicago, and but one change to St. Louis. Connects at Harrisburg for Erie and the Oil Regions. Connects at Junction for Stroudsburg, Water Gap, Scranton, &c. Connects at Phillipsburg for Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Saturdays,) for Easton, Bethlehem, Allentown, Reading, Harrisburg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars to Pittsburg and Chicago. Connects at Junction with Delaware, Lackawanna and Western Railroad for all stations to Scranton. This train will be run to Easton on Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton, Allentown, Reading, Harrisburg, Pittsburg, and the West—connects at Harrisburg with train for Williamsport, Erie, &c.

Sleeping cars through from Jersey City to Pittsburg every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15, 8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:10, 2:0 3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25, 7:00, 7:20, 7:40, 8:00, 9:00, 9:40, 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the Central Railroad of New Jersey, foot of Liberty st., N. Y.; at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at No. 10 Greenwich st., and at the principal hotels.

R. E. RICKER, Superintendent.
H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - } Editors.
T. WRIGHTSON, - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, JANUARY 20, 1870.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
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“ “ per annum.....	25 00
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“ “ six months.....	135 00
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Cards not exceeding four lines, \$7 00 per annum.

WRIGHTSON & CO., Prop'rs.

Chesapeake & Ohio Railroad.

We have already stated in the RECORD some of the leading points in this great enterprise, but such is its importance, and such is the bearing we think it will have on the interests of Cincinnati, and of the whole Ohio Valley, that we shall continue to present some of its more salient and interesting features, until our readers are acquainted with all the main points:

First, we will present some reasons why there ought to be another trunk line to the Eastern Atlantic.

Let the reader turn back and mark the state of things at three different periods, viz: 1825, 1845 and 1855. Look at them in reference to the commercial communications between the eastern and western sides of the Alleghany mountains.

In 1825 there were no communications except by wagon and by stage. Then came the canals, and the canals of New York and Ohio were deemed wonderful, and their effect in building up Western New York and Northern Ohio was wonderful indeed. For ten years nothing was talked about but canals, but in 1836-7 the people began to wake up to the fact that railroads were a success, and began to make them.

In Ohio, the Mad River, and the Little Miami roads began to be made, but it was 1845 before New York succeeded in getting through the Central.

Now go down to 1855, and we find the Pennsylvania Central getting through, and the Baltimore road did not really get through by the Marietta road (and in fact is not finished to this day) until near ten years after that.

Now let us take the population west of the mountains at each of these periods; west of

the mountains, and north of the Ohio and Arkansas, it will be something like this:

In 1825.....	860,000
In 1845.....	4,000,000
In 1855.....	5,810,000
In 1869.....	12,000,000

In 1845 there was but one great railroad line (the New York). In 1855 two, (for we count both New York lines as essentially one, both going really to the Lake basin) and in 1869, there are really but three.

It is evident from the above table, taken in connection with the fact that the great canals are all in operation, and the lake vessels multiplying with extreme rapidity, that an increase of 3,000,000 people west of the Alleghany range demands a new trunk line to carry off the produce of the country, and bring back merchandize. But, especially is this the case when two states, Virginia and North Carolina are to be added to the eastern traffic, for the trade between the West and these states (direct trade) has been very small, but, if an increase of 3,000,000 of people demand a new trunk line of road, how long will it take to make that increase?

This is an interesting problem. By the previous ratios of increase combined, so as to allow of the decrease of ratios, it appears that the ten states allowed in the above limit, viz: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Kansas and Nebraska, will have increased 3,000,000 in 1875 or '76, only five years, or at most six.

Supposing the Chesapeake and Ohio road to be finished in three years, it will not be three years more before the increase of the Central West will be enough to give that road full business, without taking a pound or a man from any other road! This is the great secret why freights are still high, and why every railroad that is built finds business enough.

In 1875, the Central West will have 15,000,000 of people independent of Kentucky, but Kentucky will then have 1,500,000, and a considerable portion of its eastern traffic will go over the Chesapeake and Ohio road. We have now answered the question why the Chesapeake and Ohio road is needed, and why, in all human probability, it will be profitable. Let us now look into its stability and prospect.

Secondly. The first thing necessary to the completion and stability of a railroad is the funds sufficient for that object.

We take from the last report of the company the following statement of its finances:

Total cost of the road, in gold...	\$11,955,948
Present value.....	15,000,000
Total of all liabilities.....	3,288,692

The Company have, or had then, a property worth more than \$10,000,000, net, and clear of all debt.

The report says:

"Arrangements have been concluded during the past year, whereby, through the co-

operation of prominent and influential New York capitalists, the Chesapeake and Ohio Company will prosecute the work upon the unfinished portion of the line with increased vigor. The part of the road between the Kanawha coal fields and the western terminus on the Ohio river, (seventy-five miles,) being in good part graded, can be completed and put in running order, within the current year. This will give an additional stimulus to the connecting lines now constructing in Central Kentucky and Ohio. The heavier items of the work on the New River section, between Kanawha and White Sulphur Springs, can, meantime, be put under contract; and by the close of 1871, if not sooner, the whole line to the Ohio be brought into full operation.

The condition of the Company's finances, as reflected in the above table, is unusually favorable for the prompt completion of the work, and for the economical and profitable working of the road after completion."

We understand the arrangement is to furnish the capital to the extent of \$10,000,000, which is the full extent of what is required, by the reports of the best engineers, for the completion of the work. The estimates of the engineer under whom the Covington and Ohio Railroad was being built by the State, placed the cost of the 225 miles, between Covington and Big Sandy, in a solid manner at \$11,612,636. Of this amount, \$4,300,000 has been expended, and is worth that to the present owners. Notwithstanding the increased cost of labor and material, it is believed the extreme amount necessary to complete it will not exceed ten millions. If this be so, the whole line of 427 miles will be the cheapest road made between the Atlantic and the Ohio. Notwithstanding this, the line is believed to have the lowest grades of any trunk line.

The following is a little table of the maximum grades going east:

From the Ohio to Clifton Forge (236 miles).....	30 feet.
East of Clifton, on North Mountain.....	75 "
On the Blue Ridge.....	74 "

These grades are lower, considerably, than those on the Baltimore, and we believe on a small part of the Pennsylvania road. At any rate, they are grades low enough not to present any serious obstruction to the passage of heavy freight.

"The full force of low grades will be understood when it is explained, that the cost of moving a given weight along a line increases in a constantly accumulating ratio in proportion as the steepness of the grade is increased. For example, the motive power which would suffice to draw 307 tons on grades of 10 feet to the mile, would draw only 168 tons upon grades of 50 feet to the mile, or 100 tons on grades of 90 feet to the mile. Or by the method in use among engineers, of equating grades and distances, the line of highest grades is, for the purposes of operation, equal to so much additional length of line, since it requires so much more power to move a given weight a certain distance. Where the grades are usually high, the loss of operating power is still further increased by the necessity of using additional motive power and service, or by the application of special mechanical contrivances."

Let us now turn to some of the advantages which may be expected from the fact (we showed in a former article) that the Chesapeake and Ohio Railroad would have the shortest line, that is the shortest portage, between the Atlantic and the waters of the Ohio. We referred then especially to Norfolk, which is the great ocean port at which this road ultimately terminates. But it makes the shortest line to other important places.

The following table shows the distance from Washington City to Western towns, by different roads:

	Cincinnati.	Chicago.	Louisville.
	Miles.	Miles.	Miles.
Chesapeake & Ohio...	582	866	616
Baltimore & Ohio.....	613	852	720
Pennsylvania Central.	696	842	753

This is a gain of 31 miles to Cincinnati, and of 74 miles to Louisville, over the Baltimore & Ohio. And a gain of 64 to Cincinnati, and 109 to Louisville over the Pennsylvania road. But, if there be a direct line, as we think there certainly will be from Gayandotte to Cincinnati, the gain to Cincinnati will be 50 miles more than in the above table.

It will be seen above, that 75 miles of the line, lying on the Ohio and Kanawha have been nearly graded, and can be put in good order and be run in a year. This would be an immense advantage to the trade of Cincinnati. Half the year the Kanawha is almost unnavigable, and although coal fields are accessible to Cincinnati in various directions, yet it is well known that the richest and most valuable coal fields that are easily reached from Cincinnati, are on the Kanawha. We also know that some of the proprietors of the best coal deposits there have not worked their mines, and dare not venture on it, because of the short period in the year in which coal barges could safely descend. We know that calculations have been made in reference to that point. If the coal owners could have supplied their men easily, and carried the coal to market as it was mined, they would have opened and carried on the Kanawha mines long ago.

Now, a railroad with easy grades, and with moderate cost per mile, can carry heavy freight cheaply. Such a railroad will be the Chesapeake and Ohio in the Valley of Kanawha. This road must be brought over the Ohio on a bridge, and carried through Portsmouth as direct as possible to Cincinnati. And in spite of the river, or any other line, this road can lay the best of coal in Cincinnati, as cheap as it can be done on any other route.

This, however, makes but one item in the account of benefits which will accrue to Cincinnati from a railroad up the Valley of the Kanawha, and this we may have within two years.

There are other, and very important views of the Chesapeake and Ohio Railroad which we shall present in another article.

PETERS' MUSICAL MONTHLY for January has been received. The publishers appear to be determined to spare no efforts not only to sustain, but to surpass their former reputation. The present number contains fourteen pieces of the most popular music of the day. Subscription price \$3 per year. Peters' & Co., Publishers, New York.

THE CHRISTIAN UNION still comes to us weekly, freighted with rich thoughts and gems of literature. It is edited by H. WARD BEECHER, than which it needs no other recommendation.

PUBLIC LEDGER ALMANAC.—The *Philadelphia Ledger*, the popular paper of the Quaker city, has issued an almanac to regulate the weather for its innumerable readers. It is most elegantly gotten up, and full of useful information.

TRIBUNE ALMANAC.—This standard political annual, replete with reliable information, is issued and on our table. It has been the best political text book published in this country for thirty years.

REPORT OF Survey of Licking River.

ENGINEER'S OFFICE,
Frankfort, Sep. 13, 1836.

To HON. WM. OMSLEY,
Pres. Board of Internal Imp. of Ky.

SIR:—In obedience to an order of the Board of Internal Improvement, dated June 11th, 1836, directing surveys and examinations to be made of the Licking river, and a report to be made as soon as the survey should be completed from the mouth of the river to Falmouth, I have the honor to submit the following statement, together with the estimate in detail, by N. B. Buford, Esq., resident engineer, of the locks and dams necessary to make a slack-water navigation to Falmouth.

The Licking river from the mouth up to the Lower Blue Licks, a distance of 98 miles, has a deep bed of nearly uniform width. There is generally on one side, a bluff of limestone rock, which rises abruptly from the water, and on the opposite side, an alluvial bottom, the surface of which is from 30 to 60 feet above the low water plane. The bottom of the river is generally rock. The banks are regular, and the pools will average when the dams shall be completed, about 400 feet in width below Falmouth, and about 350 above. Between the Lower Blue Licks and the mouth of Slate creek, the banks, so far as the river has been examined, appear to be more broken, and the bottoms or flats are not so high. Between the mouths of Slate and Beaver creeks, the bottoms are lower and wider than on the other parts of the river. From the mouth of Beaver creek to the town of West Liberty, the valley is narrow, and there is but little bottom land that would be injured by the erection of dams of any desirable height.

From the mouth of the river to Falmouth, 51 miles, the ascent is 80 feet, or about 19

inches to a mile; from Falmouth to the Lower Blue Licks, 47 miles, the ascent, as determined by the survey of Lieut. Turnbull, in 1829, is 64 feet, or 16½ inches in a mile; from the last named point to the mouth of Slate creek, 47 miles, the ascent is 56 feet, or 14½ inches in a mile. From Slate creek to West Liberty, the river has not been surveyed. The distance is estimated at about 60 miles, and the ascent at 80 feet, or 16 inches in a mile.

The lower part of the river is susceptible of improvement for a navigation as large as that adopted for the Kentucky river. The pools will be wide enough to be navigated by common steamboats as far up as the Lower Blue Licks, and probably to the Sherburn Mills, if it should be deemed advisable to carry a large navigation to that point. Above this the river becomes too narrow and crooked for large boats.

There has been no time during the present season, when the river has been down to what is called low water, and no measures could be made to determine the minimum quantity it would furnish during a dry season. The smallest quantity which has been observed at Falmouth, above the entrance of the South Fork, was about 27,000 cubic feet per minute or about five times the quantity which would be necessary for the purposes of navigation. It appears from the information obtained with regard to the water, that the supply will be abundant for the purposes of navigation during the driest seasons, as far up as the mouth of Slate creek, and that there will at all times be a surplus on the lower part of the river. From Slate creek to the North Fork, in Morgan county, the supply of water will probably be sufficient for a small navigation. Above the North Fork it may fail in the driest seasons, but there will be enough for navigation during the greater part of the year.

In forming a slack water navigation, where the channel of the river is as free from obstructions as the lower part of the Licking, the locks and dams constitute the principal items of expense. The cost of the dams will be nearly the same, whether a large or small navigation is adopted. The expense of the locks will be greater for the large than for the small navigation. The whole cost of the improvement on any portion of the river, will be nearly in proportion to the lockage. As the upper part of the river becomes smaller, the dams will be reduced in length, and the expense of constructing them will be proportionally reduced; but the cost of the locks will remain the same, where building materials are equally convenient.

Estimates are made for three kinds of navigation. The first with locks of the same dimensions as those adopted for the Kentucky river, viz: 175 feet long and 38 feet wide in the chamber. The second, to have locks of half this width, and 120 feet long in the chamber. The third to have locks 130 feet long, and 25 feet wide in the chamber. The first estimate contemplates a large navigation from the mouth of the river to the Lower Blue Licks, and a navigation adapted to boats of half that size, from that point to West Liberty. The second estimate provides for a navigation with locks 130 feet long, and 25 feet wide in the chamber, to be uniform throughout the whole extent of the improvement. The depth of water in all cases is supposed to be 6 feet.

In the plan proposed for the navigation below Falmouth, there are five locks and dams below the South Fork, and one at the town.

This last dam will back the water up so as to give the required depth about 14 miles, making in all a navigation of 65 miles.

The sites for the dams and locks as far as they are located, are represented upon the accompanying maps. The first dam is placed about three miles above the mouth of the river. Below this some improvements are required in the channel. The Ohio river was too high during the time the examinations on the lower part of the river were in progress, to permit a correct measurement of the work required to be taken; but the estimate made, is believed to approximate near to what will be found the actual cost. Above the first dam, the only work required between the locks, below the Blue Licks, will be the removing of some of the timber from the shores.

A dwelling house, with the necessary out houses, will be required at each lock, for a lock keeper. The expense at each will be about \$1,200.

The amount of damage which will accrue to private property will be small. The supposed cost of land at the locks and dams, and the amount which will be required to pay damages for mill property, etc., are included in the estimates.

Estimated cost of the locks, dams and other works necessary for a slack water navigation along the Licking river, from the mouth to the town of West Liberty, in Morgan county. The locks below the Lower Blue Licks to be 175 feet long, and 38 feet wide in the chamber, and the locks above that point, to be 120 feet long, and 19 feet wide in the chamber—the depth of water to be six feet.

Lock No. 1, 17½ feet lift—dam 450 feet long.....	\$120,771 00
Lock No. 2, 18 feet lift—dam 450 feet long.....	117,431 00
Lock No. 3, 15 feet lift—dam 350 feet long.....	100,200 00
Lock No. 4, 17 feet lift—dam 425 feet long.....	102,176 00
Lock No. 5, 16 feet lift—dam 400 feet long.....	102,865 00
Lock No. 6, 16 feet lift—dam 350 feet long.....	97,156 00
104,250 bushels of hydraulic lime for locks and dam abutments @ 40 cents.....	41,700 00
Lock houses and fixtures about them.....	7,200 00
Removing timber from the banks of the river along a distance of 65 miles, at \$100 per mile.....	6,500 00
Improvements in the channel below No. 1, including the bar at mouth of the river.....	15,000 00
	\$716,999 00
Add for contingencies, 3 per cent.	21,510 00

Estimated cost of 65 miles of large navigation, including all expenses, \$11,361.67 per mile, or \$7,343.35 per foot of lockage..... 738,509.00

Estimated cost of 33 miles of large navigation, extending from the head of the pool of Dam No. 6, to the Lower Blue Licks, including all expenses. Lockage 40 feet at \$7,000 per foot..... 280,000.00

Estimated cost of the large navigation from the mouth of the river, to the Lower Blue Licks, distance 98 miles, lockage 140 feet..... \$1,018,509.00

Estimated cost of 107 miles of small navigation, extending from the Lower Blue Licks to West Liberty, including all expenses. Lockage 130 feet, at \$5,408.71 per foot lift, or \$6,874.57 per mile..... 735,580.00

Estimated cost of the navigation from the mouth of the river, to West Liberty, 205 miles, with 286 feet lockage..... \$1,754,089 00

NOTE.—The cost of the five locks and dams and other work necessary for the navigation, (with locks 175 by 38 feet in the chamber) from the mouth of the river to Falmouth, will be \$638,138 00.

[Here follows in the report an estimate for navigation by locks 130 by 25 from the mouth of the river to West Liberty, at which the cost is stated at \$1,540,591.00, while the construction of the five locks to Falmouth is put at \$513,580.00.]

The country along the upper part of the river, will furnish for transportation to market, iron, mineral coal, timber, agricultural produce, and probably salt. The iron district commences a little above the mouth of Slate creek, and ore, in greater or less quantities, is found in most of the higher hills on both sides of the river, as far up as the country has been examined. The beds which have been opened, and most exposed to view, are upon the high ground along the south side of Slate creek, and on the hills in the vicinity of Beaver creek.

The ore on Slate creek lies in horizontal beds along a range of hills of several miles in extent. Excavations have been made at a great number of points, for ore to supply the Slate creek furnace. These excavations frequently present a thickness or depth of the beds of 10 or 12 feet, and no instance was observed where the miner had penetrated to the bottom. The expense of obtaining ore at this place is very small, when compared with the cost of mining in ordinary cases, and the quantity is inexhaustible.

The ore in the hills in the vicinity of Beaver creek, has been worked to a considerable extent, and is said to make iron of a superior quality. The beds, here, lie three or four hundred feet above the river, and are found in connection with, and frequently resting upon limestone rock. The ore is rich and very abundant.

This district of country furnishes, in addition to the great abundance of ore, many advantages for the extensive manufacture of iron. The smaller streams furnish water sufficient, with well arranged machinery, to drive furnaces during the greater part, and probably throughout the whole year. The country is covered with timber, from which fuel would be supplied for many years, and a good deal of the land is of a quality best adapted to the reproduction of timber, when once cut away. Mineral coal could be supplied, with the aid of the navigation, at a cheap rate from the mines above.

There is but one furnace and one forge, both on Slate creek, now in operation upon the waters of the Licking river. The furnace is said to make from 700 to 800 tons of iron (pig metal and castings) annually.

The coal district commences a few miles above the mouth of Beaver creek. A stratum of coal of from 4 to 6 inches thick was found on leatherwood creek, a branch of the Beaver, about four miles from the river. A bed

about 18 inches thick, was found on the North Fork, Morgan county, about 7 miles, by the course of the creek, above the mouth. Coal is said to occur at several places further up the stream; the depth or thickness of the beds is not ascertained. On the left bank of the river, about two miles above the mouth of Blackwater creek, a bed of coal appears in the face of the bluff, between 18 inches and 2 feet thick. It is about 8 or 10 feet above the water. Coal appears in the banks and in the bed of the river, at several points between this place and West Liberty; but the beds as they are exposed to view, do not exceed two feet in thickness. On the Elm Fork, a stratum of coal, from 18 inches to 2 feet thick was traced by Mr. Buford, about six miles.

At West Liberty there are two strata of coal, one in the bed of the river, and one about 50 feet above it. The last appears in several places in the ravines, in the vicinity of the town. At one point it was found to be from 2½ to 3 feet thick. Coal was found at several places upon the Cany creek and its branches, but the beds which were examined, are not more than 18 inches or 2 feet thick. Further up the river, and on the upper part of the smaller streams, coal is said to be more abundant, and in thicker beds than in the neighborhood of West Liberty. These coal beds are within the great coal field which lies along the north-western side of the Cumberland mountains. They are nearly in a line with the coal mines on the Cumberland, the Kentucky, and the Sandy rivers. The beds or strata lie nearly horizontally, and appear to extend in every direction, all over the country.

There is no coal mined along the Licking, either for domestic purposes or the market, and no examinations have ever been made, with a view to determine whether thicker beds than those above described, exist in the country or not. The coal that was examined was of a superior quality, apparently free from slate or earthy matter.

The timber which the country would furnish for market is principally white oak and poplar. White oak suitable for staves, ship building, etc., is found in great abundance.

From the information obtained relative to the quantity of water, it appears that there will be at each dam, on the lower part of the river, a surplus of at least 10,000 cubic feet per minute, during the driest part of the season, and at all other periods of the year a much larger quantity. As we proceed up the river the quantity of surplus water will diminish; and above the mouth of Slate creek, there will be none in summer, which can be depended upon for constant work.

The surplus water may be applied to the propelling of machinery for mills, manufactures, &c. The available fall at each dam, will be about three feet less than the lift assumed for the lock.

At dam No. 1, the water power will be of less value than at the dams above, as the back water of the Ohio river will reduce the fall to a very few feet during the greater part of the year.

The lock at dam No. 2, will have a lift, at low water, of 18 feet; and the fall available for water power, will be about 15 feet. Water is generally estimated or measured by a horse's power, which is taken at 32,000 lbs. raised one foot high in a minute. The proportion of the power to the effect when water is applied to overshot wheels of best construction, is as 3 to 2. So that it requires the expenditure of 48,000 lbs., or 768 cubic feet of water descending one foot to raise 32,000 lbs. to the same height in the same time. 768

divided by 15=51 2 cubic feet of water per minute, equal to one horse's power.

In the arrangement of mill machinery, the allowance for each pair of mill stones is, generally, about 5 horse power; then $5 \times 51.2 = 256$ cubic feet of water per minute, is the quantity required to drive each pair of mill stones. And 10,000 cubic feet, the minimum quantity of surplus water per minute, divided by $256 = 39$, the number of runs of mill stones which the surplus water would drive or propel at this dam.

At Trenton, New Jersey, where a canal has been made for the purpose of creating water power, with a fall of about 14 feet, the annual rent is about \$150 for each run of stones and so in proportion for other machinery. At Manayunk, on the Schuylkill, it is nearly double that price; at other places it is lower.

All of which is respectfully submitted,
SYLVESTER WELCH,
Chief Engineer of Kentucky.

REPORT

ON THE

Survey of Licking River

FROM THE

Blue Licks to West Liberty

OFFICE OF THE RESIDENT ENGINEER OF THE }
LICKING RIVER NAVIGATION, }
November 1st, 1837.

SIR:—I have the honor to submit the following report upon the survey of the Licking river, from the Blue Licks to West Liberty, together with a table exhibiting an estimate of the probable cost of the 12 locks and dams, which have been located above the Blue Licks, and a table exhibiting the locality, lift and guard of each lock—length and height of each dam—the length of the pools, distances from the mouth of the river, and probable cost of the 21 locks and dams which are designed to extend the navigation to West Liberty. To this table has been added all the other items which should be embraced, so as to exhibit an estimate of the entire cost.

As soon as the test level had been ran from the mouth of the river to the Blue Licks, which was completed on the 6th of June, I progressed with the survey to West Liberty.

At the Blue Licks, the river is 250 feet wide, which is its least width; and from that point to Atchison's Ripple, which was selected for the site of Lock No. 13, the width varies from 250 to 400. The banks of the river between these two points are high, being seldom less than 40 feet above low water. The valley of the river is contained between hills that are gradually sloped from their summits to the river, and a very small portion of the bottoms is composed of alluvion. The lands adjoining the river in Bath and Fleming counties are very fertile. The only rocks which compose the hills are stratified secondary limestone, as high up as the mouth of Slate creek, which is $145\frac{1}{2}$ miles above the mouth of the river and 6 miles below Atchison's Ripple. In all this distance the river has a solid rock bottom at depths varying from 1 to 10 feet, is free from accumulations of sand, and affords numerous excellent sites for lock and dams. From Lock No. 9 to Atchison's Ripple the distance is $60\frac{1}{2}$ miles, and the ascent is 63 feet. The locks between these points are proposed have lifts of from 15 to 16 feet. Building

materials are abundant on this section of the river. Strata of good limestone are found a short distance above Lock No. 9, of about 2 feet in thickness, but are not so thick near the other sites. It is not doubted but suitable stone exists in the hills. No quarries have been opened. White oak timber of the best quality is very abundant.

From Atchison's Ripple to Wilson's Ripple, the river and its banks exhibit very different characteristics from those above described. Above the mouth of Slate creek, which is the largest tributary above the North Fork, the river is reduced to widths varying from 180 to 250 feet. Sandstone begins to appear in the tops of the hills near Slate creek, and about two miles above Atchison's Ripple, forms the bed of the river. Above this latter point, sandstone and slate are the principal rocks that occur. Near the tops of the hills, at a considerable distance higher up the river, one stratum of compact secondary limestone, of about 15 feet in thickness makes its appearance, dipping to the South. The river, in the vicinity of He's and Gill's mills, flows in an alluvial valley of from a half to three miles in width, bounded by high hills. The bottoms are sandy, and in some places are less than 20 feet above low water. The river in this valley is very crooked. Sand bars are formed below every point where the river changes direction, and the alluvial banks are seen in some places yielding to the action of the current. Strata of slate frequently occur crossing the bed of the river, and afford good foundations for locks and dams. Bluffs of slate 50 feet high sometimes form the banks of the river. From Atchison's Ripple to Wilson's Ripple, which is one mile below Beaver creek, the distance is $39\frac{3}{4}$ miles, and the ascent is 63 feet. The locks in this portion of the river are proposed to have lifts of from 9 to 12 feet. Building materials of superior quality are found near the lock sites. Good sandstone in strata of from one to six feet thick occurs in all the hills.

From Wilson's Ripple to McClure's mill, which is six miles below West Liberty, the river and its banks again change their characters. The valley of the river becomes gradually reduced from one mile to about 500 feet in width, and becomes enclosed between perpendicular cliffs of rock. The bottom lands again become to be from 30 to 40 feet above low water. The hills are composed of strata of slate, sandstone and limestone. The stratum of limestone is single, and is about 15 feet thick. It occurs near the summit of the hills, which are about 500 feet high, near Gill's mill and Beaver creek, and dips so much to the south as to pass under the bed of the river about the mouth of Blackwater, which is 212 miles above the mouth of the river. The river in this section is called "the Narrows" For about 18 miles it is without habitations, and is very difficult of access by roads. It affords good sites for locks and dams, and the lifts are proposed to be from 15 to 18 feet.

From McClure's mill to West Liberty, the river presents the same characteristics as between He's and Gill's mills. The alluvial bottoms again become wide and the banks become very low.

From Wilson's Ripple to West Liberty, the distance is $39\frac{3}{4}$ miles, and the ascent is $60\frac{1}{2}$ feet. This section of the river is very crooked. In the Narrows the bed of the river is obstructed with large masses of sandstone, sometimes measuring 500 cubic yards above low water. This section receives six considerable tributaries.

The whole distance from the mouth of the

river to West Liberty is 231 miles, and the whole ascent is 310 feet. The number of locks and dams required for the navigation is 21, with lifts varying from nine to eighteen feet.

The quantity of water which the river furnishes was carefully measured above the site of Lock No. 21, on the 1st day of August, when the water was believed to be at its lowest stage, and its quantity was found to be 2520 cubic feet per minute. Three considerable tributaries enter the river within ten miles below the point where the measurement was made, which are estimated to furnish about 1,200 cubic feet of water per minute.

Iron ore is first found in the vicinity of the river at Ringo's mill, 140 miles above its mouth. Ore beds of about four feet in thickness occur in the hills on the left bank, and extensive beds are found in the hills on the opposite bank near Fox creek.

The iron district on Slate creek was accurately described in the report of the Chief Engineer last year, as also the beds of it, in the vicinity of Beaver creek.

My own examinations have led me to believe that the iron ore which occurs near the river from Cane creek to Beaver creek, at distances between 180 and 193 miles from the mouth of the river, is more abundant and of as good quality as in any other part of the State. The ore is found in veins of from five to fifteen feet thick, near the bases of the hills, and in beds of from three to ten feet thick, near their summits, and is found overlying the stratum of limestone which has been above described.

Iron ore is also found in most of the hills between Slate creek and West Liberty, and near McClure's mill, the beds are very extensive.

The Coal district on the upper part of the river was accurately described in the report of the Chief Engineer, above referred to.

My own examinations have led to the discovery of a number of veins which were not known to exist last year, but as yet none have been found of greater thickness than three feet two inches. One mile above Blackwater three veins have been discovered; overlying the stratum of limestone which passes under the bed of the river at this place. The lowest one is thirty inches thick, and is separated from the limestone by a strata of clay colored slate of about fifteen feet in thickness. The next vein is eighteen inches thick and is found in a plane about twenty feet high. The third vein is found about ten feet higher up the hill. The two latter veins are separated by strata of sandstone and slate. From Blackwater to West Liberty, veins of coal are found at almost every point where the mountain stream has washed the earth from its bed, and uncovered the rocks which compose the hills. Two miles above Blackwater three veins occur in the same relative position as those last described, the lower one being three feet thick. One vein three feet thick is found opposite the mouth of Greasy creek, and in the vicinity of West Liberty two veins occur which are each three feet two inches thick. Thinner veins occur all over the country.

All the other facts which have relation to the surplus water, and the trade of the country adjacent the river, are contained in the report of the Chief Engineer, in 1836.

The amount of damages to mill property on the river is contained in a report on that subject.

All of which is respectfully submitted.

N. B. BUFORD,
Resident Engineer, Licking River Navigation.
To SYLVESTER WELCH, Esq.,
Chief Engineer of Kentucky.

Journal of Railroad Law.

[From the American Railroad Journal.]

COMMON CARRIERS—WHEN THEIR COMMON LAW LIABILITY MAY BE LIMITED—EFFECT OF RECEIPT—RULES GOVERNING VALUE OF BAGGAGE

The facts in the late case of *The Adams Express Company vs. Haynes* (42 Ill. 89) are fully and clearly stated in the following opinion by

WALKER CH. J.—This was an action of assumpsit brought by Richard F. Haynes, in the Cook Circuit Court, against the Adams Express Company, to recover the value of the contents of a trunk, intrusted to them as common carriers, to transport from Nashville, Tennessee, to Chicago, Illinois; and it was claimed that the contents of the trunk was lost through the negligent and fraudulent conduct of the company. The instrument declared on is as follows:

"Adams Express Company,
"Great Eastern, Western and Southern
Express Forwarders."

"Nashville Feb. 10th, 1865.

"Received of R. F. Haynes, 1 Trunk value _____, marked Mr. T. M. Shepherd, Chicago, Ill., which it is mutually agreed is to be forwarded to our agency nearest or most convenient to destination, only, and there delivered to other parties to complete the transportation.

"It is part of the consideration of this contract, and it is agreed, that the said express company are forwarders only, and are not to be held liable or responsible for any loss or damage to said property while being conveyed by the carriers to whom the same may be by said express company intrusted, or arising from the dangers of railroad, ocean, or river navigation, steam, fire in stores, depots, or in transit; leakage, breakage, or from any cause whatever, unless, in every case the same be proved to have occurred from the fraud or gross negligence of said express company, or their servants; nor in any event shall the holder hereof demand beyond the sum of fifty dollars, at which the article forwarded is hereby valued, unless otherwise herein expressed, or unless specially insured by them, and so specified, in this receipt, which insurance shall constitute the limit of the liability of the Adams Express Company. And if the same is intrusted or delivered to any other express company or agent (which said Adams Express Company are hereby authorized to do), such company or person so selected shall be regarded exclusively as the agent of the shipper or owner, and as such, alone liable; and the Adams Express Company shall not be in any event responsible for the negligence or non-performance of any such company or person; nor in any event shall said express company be liable for any loss or damage, unless the claim therefor shall be presented to them in writing, at this office, within thirty days after this date, in a statement to which this receipt shall be annexed. All articles of glass, or contained in glass, or any of a fragile nature, shall be taken at shipper's risk only; and the shipper agrees that the company shall not be held responsible for any injury, by breakage or otherwise, nor for damage, to goods not properly packed and secured for transportation. It is further agreed, that said company shall not in any event be held liable for any loss, damage, or detention, caused by the acts of God, civil or military authority, or by rebellion, piracy, in-

urrection or riot, or the dangers incident to a time of war.

"For the company,
"M. A. Barry."

"Freight paid 48s."

A trial was had by the court and a jury, which resulted in a verdict in favor of plaintiff for the sum of \$500 damages. Thereupon defendant entered a motion for a new trial, which was overruled by the court and judgment was rendered on the verdict, and defendant brings the case to this court to reverse the judgment.

It will be observed, that the receipt upon which this suit is brought contains provisions which were designed to relieve plaintiffs in error from almost every species of responsibility. It is true, that it leaves them liable for fraud and gross negligence, but even then, only to the extent of fifty dollars. We are at loss to conjecture how a sane man could be induced to receive such an agreement knowing its contents. If he understood its terms and conditions, he knew that he was licensing the company, or any of its numerous agents and employees, to appropriate all of the property thus intrusted to their care by paying him the sum of fifty dollars. And it appears, that he paid an eighth of that sum, nominally, for transportation of the property, but it looks more like a premium for violating their trust. No person can be surprised that \$500 worth of property intrusted to them under such a receipt, never reached its destination, but it would have been singular if it had.

In the case of the *Western Transportation Company vs. Newhall* 24 Ill. 466, it was held, that a common carrier could not restrict his liability by a mere notice that property received by it was subject to specified conditions, indorsed upon the receipt, or given in any other mode. Prior to that case was the case of the *Illinois Central Railroad vs. Morrison* 19 Ill. 136, where it was held that a common carrier might enlarge or diminish his liability by express agreement, they still remaining liable for gross negligence, or willful misfeasance of duty, against which good morals and public policy forbid they should be permitted to stipulate. And where a common carrier received goods for transportation under a restricted liability and they have been lost, and the carrier is unable to show how or when they were lost, it would only be reasonable to conclude they have been lost through gross negligence or misfeasance.

And it is but reasonable, when the restrictions appear in the receipt, that the jury should be satisfied from the evidence, that the person to whom it was given had full knowledge of the restrictions when the receipt was given. And to show that he was not so informed, all of the circumstances attending the giving of the receipt may be admitted in evidence. In the case of the *Western Transportation Company vs. Newhall*, reference was made to the *Mich. Central R. R. Co. vs. Hale et al.* 6 Mich. 244, where the court held, that "His assent to this limitation is still necessary, and that is a question of fact for the jury, to be determined by evidence *alimude*, and is not the subject of presumption from the terms of the receipt alone. And this is the correct rule respecting notices of common carriers designed to have such effect. The carrier can no more restrict his common law liability, unless upon the free and full agreement of the party dealing with him, than he can refuse to carry when required. Such an agreement is not to be implied from the posting of notices or the simple delivery of one to

the consignor, as this would be no more than limitation of his liability, by *ex parte* action. Some evidence of assent to the terms of the notice is necessary, from which a contract may be implied."

While this was said in reference to a notice on the back of a receipt, still, if it appeared that the consignor had received a receipt containing limitations, of which he was uninformed, the effect would be the same. And it is for the jury to determine whether he intended to accept an undertaking with a restricted liability. If defendant in error did receive this receipt with a full knowledge of its terms and conditions, and intended to assent to the restrictions it contained, then it undoubtedly became his contract as fully as if he had signed it. See *Baker vs. Mich. South and North Ind. R. R.* of this term *ante* 73.

On the trial below, the court, against the objection of plaintiffs in error, permitted defendant in error to prove a portion of the contents of the trunk. The general rules of evidence exclude parties to the record, and persons having an interest in the result of the suit, from testifying. But, from the necessity of the case, an exception has obtained, in favor of persons who have lost baggage intrusted to a common carrier. But it has never been regarded as a rule, or extended beyond that particular class of cases. And courts always receive such evidence with caution and endeavor to restrain the rule within narrowest limits, and to caution juries when they receive such testimony. *Illinois Central Railroad vs. Copeland* 24 Ill. 332.

We are aware of no case which has gone to the length of holding, that a consignor of goods transported by water, by rail or otherwise, might in case of loss prove their contents. And if allowed in the case of loss by an express company, no reason is perceived, why the same thing might not be done in every case loss by common carriers, without reference to the mode of transportation or the character or value of the goods intrusted to the carrier. The exception must we think, be restricted to baggage accompanying a person when traveling. Until the legislature shall change the rule, we must administer the law as we find it. Whatever may be the hardship, or whatever might be our inclination, we are powerless to extend the exception. The court below therefore erred, in permitting defendant in error to testify as to the contents of the trunk, as they were in no sense baggage. The judgment of the court below must be reversed and the cause remanded.

Judgment reversed.

THE NEW JERSEY SOUTHERN RAILROAD COMPANY—This is the name of the new corporation which has succeeded to the right and property of the old *Baritan* and *Delaware Railroad Company*. The persons here and in New Jersey and Boston who purchased the road and organized the new corporation, own a large majority of its securities, and intend to retain the ownership and control of the company. They have purchased three-quarters of the stock of the *Long Branch and Sea Shore Railroad Company*, and have appointed new officers. The executive officers of the two roads being the same, they are under one management. The terminus at *Fort Monmouth* will be retained, but the *Sea Shore road* will be extended northward to the *Horse Shoe on Sandy Hook*, and a fine stone dock built there which will accommodate both pas-

sengers and freight. The depth of water at the Sandy Hook dock—twenty-two feet—will give great facilities for eastern freight, and will be the principal northern terminus of the two roads. The old road by Jackson and the Camden and Atlantic Railroad to Philadelphia is now being put in order, and the trains will run through regularly as soon as the repairs are completed. The engineers of the companies are now locating a new branch from a point on the main road a little below Manchester, direct to Pemberton, where it will connect with one of the Camden and Amboy roads, and make another and a shorter route from New York to Philadelphia, and also a route from Philadelphia to Long Branch, which will be run in two hours and a half. The iron, etc., for these additional roads, and for repairing the old road has all been purchased, and the work will be done and the cars running before the first day of July, 1870.—*N. Y. Evening Post*, Dec. 23.

The Virginia Route.

The fact that capitalists of such well known ability, prudence and judgment, as A. A. Low and C. P. Huntington, have undertaken the completion of the Railroad route through Virginia and West Virginia, connecting tide-water at Norfolk and Hampton Roads, by way of the valleys of the James and the Kanawha, with the constantly navigable portion of the Ohio, and thus with steamboat navigation on the Mississippi and all her tributaries, is justly a theme of National congratulation. Our great City is above the mean selfishness which asks, "How will it benefit us?" As "all roads lead to Rome," either in one direction or the other, so all facilities to internal commerce benefit New York by increasing the productive capacity and wealth of our country; and we shall hail with gladness the day when the annual exports of Norfolk equal the present commerce of New Orleans. There is room enough for all to grow and flourish.

The States of Virginia and West Virginia, as we understand, say to the new corporators, "We will give you what we have already done toward constructing this line of railway—so essential to us—if you will complete it within a specified time." We regard this as liberal to the corporators and beneficent to the States. We anticipate a speedy completion of the road and an immense impetus therefrom to the growth and wealth of the two States, with decided incidental advantages to Ohio, Kentucky, and, in less measure, to the entire West.

Yet, in giving place herewith to the letter of an enthusiastic friend of this enterprise, we are bound to say that our expectations of benefit from it are less sanguine than his. We do not believe that the price of grain will be materially enhanced in the West or reduced in the East by this Railroad. We do not believe much grain will be brought over it from Northern Illinois and the States north and west thereof. We do not regard the rates of freight between the East and West as notably exorbitant nor likely to be very much reduced. This Railroad has intrinsic merits too signal and too palpable to need any such arguments in its behalf. It will be built because it is needed, and because it will pay from its own proper business, without abstracting any that seems more naturally to belong to other roads. On these grounds, we predict for it the ample patronage and abundant prosperity which we most heartily wish its spirited directors and stockholders.—*Tribune*.

Albany and Susquehanna Railway.

The suit brought by the Attorney General of New York State, to have the important question settled as to who are the rightful directors of this Company, has been determined in favor of the Ramsey Board of Directors and against the Fisk party.

The action was tried at Rochester before Justice E. Darwin Smith, and occupied a long time, both sides being represented by several of the ablest lawyers in the State, including Mr. Champlain, the Attorney General, for the People, Mr. Charles Tracy and others, for the Ramsey Directors, and Mr. David Dudley Field, well-known as the lawyer of James Fisk, Jr., with several associates, for the Fisk and Gould party.

The Judge rendered a very exhaustive opinion, which we regret that it is not in our power to publish in full—but his principal conclusion are in substance as follows:

1. That attempts were made by Fisk and his associates, by means of numerous suits, injunctions and arrests to prevent a fair and legal election of directors.

2. That certain stock claimed by Fisk to have been illegally issued and improperly voted upon by the Ramsey party, was legally issued and entitled to be voted on.

3. That the director's room at the office in Albany at the time of election, was packed with a crowd of roughs from New York, brought there and fed by the Fisk party, to prevent a fair election.

In conclusion the Judge decides as follows:

"Judgment ought therefore be given according to these views. Adjudging that the Fisk set of directors were not duly elected, and that the Ramsey set were duly elected, and are the legal and lawful directors of said corporation, and further adjudging that the people recover costs in the action against the corporation, the Albany and Susquehanna Railroad Company, and that the complaint be dismissed as against the defendants, Jonathan Herrick and Walter H. Burns, without costs, and that all the suits mentioned in the pleadings be discontinued by the plaintiffs on both sides without costs, and the receivership of Pruyn, Courter and Fisk be vacated and set aside.

"The judgment will further direct that the thirteen defendants who are hereby declared to have been fully elected directors of said corporation headed by J. Pierpont Morgan, and also the defendants, David Groesbeck, Daniel T. Chamberlain, John W. Vincent, David J. Newell, Daniel C. Falls, James M. Boyd, Samuel Sloan, Samuel C. Thompson and Martin Green, recover the costs of the action against the said thirteen defendants headed by Charles Courter and Walter S. Church, whose claim to have been duly elected directors of said corporation is hereby disallowed. And it will be referred to the Hon. Samuel Selden, of Rochester, to pass upon the accounts of the receiver, and upon a hearing of the parties at Albany, to ascertain and report to the Court what would be a proper extra allowance in the action, and to which of the defendants it should be paid, and to settle such other matters of detail as may be necessary to carry the judgment into effect.

"And it will be further ordered that the said directors so held to be duly elected be let into immediate possession of said railroad, and that the receiver transfer to them all the property and assets in his hands belonging to said corporation, retaining from the moneys in his hands all proper allowance for fees, expenses and other charges to be adjusted by said referee."

Railroad Items.

—The Des Moines Valley Railroad Company will shortly bring into the market 466,000 acres of Iowa lands, mostly lying on the route of the railroad. The Land Grant bonds of the Company will be received in payment. The Des Moines Valley Railroad is a completed road, 246 miles in length, commencing at Keokuk, Iowa, on the Missouri River, and runs through the Des Moines Valley to the capital of Iowa, and thence to Fort Dodge. This valley contains about 50 inhabitants to the square mile in the eight counties through which the road runs, from Keokuk to Des Moines.

—The Board of Directors of the Norfolk and Great Western Railroad Company held a meeting at Richmond, Va., to-day, to consider the proposition made by responsible New York parties to build the entire road from Norfolk to Bristol, Tenn. A Committee, consisting of G. S. Flourney, President of the Board, Col. B. M. Jones, and Col. James McKay, was appointed to proceed to New York at once and close the contract on the basis already communicated to the Board for the construction of the road.

—The following gentlemen were elected Directors, yesterday, of the Norwich and Worcester Railroad Co.: A. F. Smith, Norwich; John F. Slater, Norwich; Augustus Brewster, Norwich; J. N. Perkins, Norwich; Robert Bayard, New York; Wm. F. Weld, Boston; F. H. Dewey, Worcester; George W. Gill, Worcester; Charles W. Smith, Worcester.

CHESAPEAKE AND OHIO RAILROAD.—The *Lynchburg Virginian* says that within the last few weeks lands to the amount of a million and a half of dollars have been sold to Northern capitalists, along the line of the Chesapeake and Ohio Railroad. It is the purpose of these gentlemen to build at least three large iron furnaces, one of which is to be located at Clifton Forge—the point at which it is proposed to intersect the great trunk-line road.

LAKE SHORE AND MICHIGAN SOUTHERN RAILWAY.—A subscriber requests information as to the terms upon which this Company settled with Messrs. Lockwood & Co. We are informed that the terms of settlement were the same as those accepted by the other creditors of Messrs. Lockwood & Co., namely, fifty cents on the dollar for the liability of \$1,080,000, and that Mr. Lockwood gave the company \$100,000 bond for the amount of \$540,000, and furnished as collateral for its payment his residence in Connecticut, 500 shares of the stock of the company, and some other securities.

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25 Sorts of either for \$1.00; prepaid by mail. Also Small Fruits, Plants, Bulbs, all the new potatoes, &c., prepaid by mail 4 lbs. Early Rose Potato, prepaid, for \$1.00. Conover's Colossal Asparagus \$3 per 100; \$25 per 1000, prepaid. New hardy fragrant everblooming Japan Honeysuckle, 50 cts each, prepaid. True Cape Cod Cranberry, for upland or lowland culture, \$1.00 per 100, prepaid, with directions. Priced Catalogue to any address, gratis; also trade list. Seeds on Commission.

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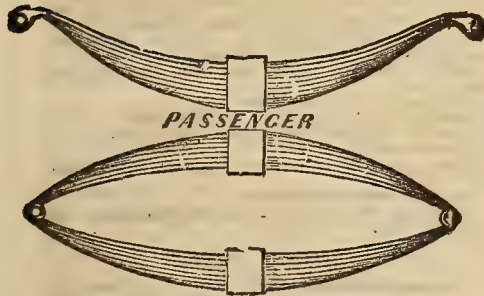
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Richmond & Chicago.....	7 00 A. M.	9 20 P. M.
Dayton Bellefontaine and Richmond.....	3 00 P. M.	10 30 A. M.
Indianapolis & Cambridge City.....	3 00 P. M.	10 30 A. M.
Toledo, Detroit, & Canada.....	6 00 P. M.	10 30 A. M.
Hamilton Accommodation.....		6 45 A. M.
Richmond & Chicago.....	7 00 P. M.	9 20 A. M.
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St. Louis and Springfield Express....	10:35 pm	3 30 pm
Lawrenceburg Accommodation.....	10:00 am	2 35 pm
Lawrenceburg Accommodation.....	4:45 pm	8:05 am

*The 10:35 pm. train will leave Sundays, but not on Sat-
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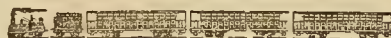
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 A. M. (Express); 1:10 P. M. (Express); 6:35 P. M.; 8:2
 P. M. (Express)

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 Leave Philadelphia for Wilmington at 11:30 P. M. Leave
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FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as
 follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk,
 Williamsport, Wilkesbarre, Mahanoy City, Tuckahannock,
 &c.
7:15 a. m.—For Somerville.
8:30 a. m.—For Flemington, Junction, Stroudsburg,
 Water Gap, Scranton, Kingston, Pittston Great Bend, &c.
12 m.—For Flemington, Easton, Allentown, Mauch
 Chunk, Wilkesbarre, Reading, Columbia, Lancaster,
 Ephrata, Eliz., Pottsville, Scranton, Harrisburg, &c.
3:30 p. m.—For Easton, Allentown, Mauch Chunk
 and Belvidere.
4:30 p. m.—For Somerville.
5:25 p. m.—For Somerville and Flemington.
6 p. m.—For Easton and intermediate stations.
7 p. m.—For Somerville.
7:20 p. m.—EMIGRANT—Stopping only at the prin-
 cipal stations.
9:00 p. m.—For Plainfield.
11:50 p. m.—For Plainfield, on Wednesdays and
 Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,
 for Easton, Allentown, Harrisburg, and the West without
 change of cars to Cincinnati or Chicago, and but one
 change to St. Louis. Connects at Harrisburg for Erie and
 the Oil Regions. Connects at Junction for Stroudsburg,
 Water Gap, Scranton, &c. Connects at Phillipsburg for
 Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Satur-
 days) for Easton, Bethlehem, Allentown, Reading, Harris-
 burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars
 to Pittsburg and Chicago. Connects at Junction with
 Delaware, Lackawanna and Western Railroad for all sta-
 tions to Scranton. This train will be run to Easton on
 Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,
 Allentown, Reading, Harrisburg, Pittsburg, and the West
 —connects at Harrisburg with train for Williamsport, Erie,
 &c.

Sleeping-cars through from Jersey City to Pittsburg
 every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15,
 8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m. 1:0, 2:0
 3:0, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45 6:00, 6:15,
 7:0, 7:2, 7:30, 8, 9, 9:00, 9 40 10:45, 1:50 p. m.

Tickets for the West can be obtained at the office of the
 Central Railroad of New Jersey, foot of Liberty st., N. Y.;
 at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at
 No. 10 Greenwich st., and at the principal hotels.

R. E. RICKEL, Superintendent.
 H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - } Editors.
T. WRIGHTSON, - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, JANUARY 27, 1870

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
" " per month.....	5 00
" " six months.....	15 00
" " per annum.....	25 00
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" " per annum.....	110 00
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" " per month.....	40 00
" " six months.....	130 00
" " per annum.....	210 00

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WRIGHTSON & CO., Prop'rs.

The Iron Manufactures of Ohio.

A good deal of discussion has taken place in the newspapers about the duty (custom tax) on pig iron. The present duty on that article is *nine dollars per ton*. Some parties wish to take it off altogether; and others, like Mr. WELLES, wish to reduce the duty to \$3 00 per ton. The difference in the *amount* of duty is not a matter of principle, and not worth discussing; but, there is a *principle*, and to that principle we adhere. It is this, that iron, in all its forms, pig, rail, bar, etc., should be protected by a tariff sufficiently high to protect the American laborer against the competition of European labor. If the European laborer is willing to come to this country, and share our fortunes, very well. But, as an European laborer, living on half wages, and getting meat but once a week, we are emphatically opposed to the American laborer being reduced to that condition. We have looked over Mr. WELLES' report carefully, to see what was the difference in his views and ours on this subject; and it is not difficult to discover. Mr. WELLES goes on the idea of *reducing the price of American labor*. In order to give this a certain color of plausibility, Mr. WELLES says he wants to reduce the cost of living, by taking off the duty from certain articles. But, wherein is the laborer any better off for that? Will taking the duty off from pig iron help the laborer to live any cheaper? Some one recently said—if the duty is taken off, "we shan't stop the furnaces; but reduce the price of labor!" Here is the

real gist of the matter. Protection is not for capitalists; but for *labor*. If capital is not profitable in certain employments, it will be withdrawn. But, what then? The laborer is thrown out of employment. If American labor be not protected, in a degree sufficient to give it comfortable subsistence, there will follow one of two things. Either a large part of factories must be abandoned, or, the laborer must be reduced to the condition of the laborer in Europe. We care not for any particular thing about tariffs; but, we do maintain, that so far as legislation can do it, the laborer should be maintained in the *means of comfortable subsistence*. This is the point to which all discussions on the tariff must go. It is now beginning to be understood, and we feel assured, that when the workmen of this country shall fully understand it we shall hear little of free trade, or of any other device to favor capital at the expense of labor. Mr. WELLES wants to reduce the cost of labor; well there is only one way in which the cost of living can be reduced, and that is *to reduce the cost of the necessities of life*. To reduce the tax on sugar, coffee, meats, etc., is to help the laborer; but, to reduce the tax on iron, silks, brandy and spices don't help him at all. He don't use these things. There is a vast amount of humbug in Mr. WELLES' ideas, but we do not discuss it now. We have made these preliminary remarks in order to introduce some statistics of the iron trade in Ohio. Under the tariff on iron, as it now stands, there has been a vast development of the iron business in Ohio, within the last six or eight years, and we presume through the whole country. The Commissioner of Statistics, when in office, recorded the facts relating to the iron business as well as others. His reports, compared with that of the Secretary of State recently made, will enable us to see almost exactly the progress of the iron development in Ohio.

The following is a table of the product of pig iron in Ohio, for a series of years:

	Tons of Iron.
In 1840.....	25,959
1850.....	52,658
1860.....	105,500
1863.....	50,704
1864.....	62,536
1865.....	63,991
1866.....	81,790
1867.....	167,591
1868.....	207,746

The three returns from 1840 to 1860, inclusive are derived from the census of the United States.

In the nine years since 1860, the production of pig iron has doubled; and from 1867 to 1868 increased 40,000 tons. Supposing pig iron to be worth an average of \$40.00 per ton, the production of 1868 was worth *eight millions of dollars*. The production of the several counties in 1868 was as follows:

	Tons of Iron.
Mahoning.....	57,273
Lawrence.....	29,450
Jackson.....	28,101
Columbiana.....	19,206
Trumbull.....	19,147
Vinton.....	16,360
Scioto.....	11,785
Jefferson.....	10,847
Hocking.....	4,100
Tuscarawas.....	3,952
Paulding.....	2,793
Cuyahoga.....	2,000
Gallia.....	2,000
Lorain.....	1,730

It will be observed, that the counties of Mahoning and Trumbull produced 76,420 tons of pig iron. This is almost entirely the development of the last six or eight years. A very superior quality of iron was found in that region, and with it very superior coal. The result is a great development of the iron and coal industries. A few years since the Lake Superior iron was developed in large quantities; and much of it brought down to Cleveland; where it was smelted and manufactured. The consequence is, that the north-east part of the State is growing faster than any part of the State. New towns are rising up; new workshops; new railroads; and every part of society is feeling the stimulus of increased labor and increased production.

We give in conclusion, the following exhibit from the Secretary of the report of the iron made, and iron works at Cleveland and in the Mahoning Valley:

IRON ORE AND PIG IRON.

Owing to a prolonged strike of the coal miners in the Mahoning and Shenango Valleys, early in 1868, it is estimated that the production of pig iron at this point was lessened at least 30,000 tons. There are forty-five furnaces whose ore is received through this port, and fifteen have Cleveland shareholders, nine of which are controlled here. There are seventy furnaces which make their ore contracts and settlements at Cleveland. Of these, four use anthracite coal, seven use charcoal, the rest bituminous coal or coke. There were seven furnaces built in 1868. The largest proportion of the pig iron used by the various iron works at Cleveland is bought directly from the makers, and the consumption can not be accurately stated. The quantity sold by commission dealers is 19,049 tons, of which 12,012 tons were charcoal and 7,037 tons bituminous irons.

IRON WORKS.

The following exhibit shows the amount of iron produced during the year 1868:

	Tons.
Pig iron.....	11,037
Railroad iron.....	22,344
Merchant iron.....	11,396
Boiler, tank and sheet iron.....	2,676
Forgings.....	4,125
Nuts, washers, rests, nails and spikes.....	5,607
Machinery castings.....	18,250
Wire.....	865

The consumption of coal and coke, as nearly as can be ascertained, was about 225,000 tons. There are some fourteen rolling mills in operation in and about the city, hav-

ing some two hundred puddling furnaces and a daily capacity of four hundred tons of finished iron, not including the rails, spikes, nuts, bolts, horse-shoes, etc. Several of these mills own their own blast furnaces, and nearly all have coal mines of their own.

This exhibit shows to what an extent the iron business around Cleveland has already developed; and it is plainly destined to increase still further. We hope these facts may be duly considered by those who feel towards the iron producer, as John Randolph did about a sheep, that he would like to kick it. A country should guard its own interests, and especially the interests of its producing classes.

The *Detriot Post* of Tuesday, January 4, says Mr. Edgar Conkling, of Cincinnati, who recently purchased a large tract of land in Emmitt County, Michigan, bordering on the Straits of Mackinaw, has had maps prepared on which the plat of a city called, or to be called, Mackinaw City, appears. This embryo city is located at the most northerly part of the Lower Peninsula, on the Straits of Mackinaw, and is (according to Mr. Conkling's maps), the northern terminus of the "Fort Wayne & Mackinaw" and "Cincinnati & Mackinaw" railroads. On the opposite side of the Straits a distance of four and one-half miles from Mackinaw City, Mr. Conkling locates the western terminus of the Canada Pacific Railroad, and the eastern terminus of the Northern Pacific Railroad. The former road stretches across Canada from Ottawa City to Sault St. Mary, crossing St. Mary's River at the latter point. From a pamphlet accompanying these maps, we learn that the proprietor intends to devote most of the receipts from sales of lots in the proposed new city to erect buildings for a University there, and to endow it. Mr. Conkling seems to be in earnest in his proposition, and there can be no doubt that, sooner or later, a considerable town will be located at or near the point which he has chosen, and that railroads from the southern portion of the State will have their northern termini there.

C. & M. V. RAILROAD.—There was filed today, at the office of the Secretary of State, the certificate of incorporation of the Cincinnati and Muskingum Valley Railroad Company. Termini—Cincinnati and Cleveland. Route—Through the centers of Hamilton, Warren, Clinton, Fayette, Pickaway, Fairfield, Perry, Muskingum, Coshocton, Holmes, Wayne, Summit and Cuyahoga. Capital stock, \$4,000,000 Shares, \$50 each. Corporators, Thomas L. Jewett, James Parks, Charles Hallowell, Justin G. Morris, Robert H. Nugen.—*Cin. Gazette*, Jan. 26.

The Senate Committee on Railroads, of the Legislature of South Carolina, made the following recommendation, which was concurred in by a vote of 21 to 2.

"The Committee on Railroads have announced their conclusion, and say that they are unalterably opposed to granting any pecuniary aid or assistance to any railroad scheme at present. The Committee unanimously recommend that the consideration of this bill, and all similar bills, be indefinitely postponed."

Cumberland Valley Railroad.

This road runs through one of the finest valleys on the continent, and the road at no very distant period may assume a more important position than it has hitherto occupied. By a very small amount of extension connecting it with the B. & O. R. R. it might become a section in a great through route between the East and West instead of a merely local road.

From the annual report of Frederick Watts, President, we gather the following statements of the business of the Cumberland Valley Railroad for the year ending October 1st, 1869.

"The large increase in the manufacture of iron, and the consequent demand for iron ore, has served to develop immense deposits of it in the vicinity of our road, and not only along the base of the South Mountain, but in the valley, and in the North Mountain. Hence there is being surveyed and located a road from Chambersburg to Mont Alto, a distance of about 12 miles, which reaches a deposit of hematite ore, which in quality is excellent, and in quantity apparently inexhaustible. This road will doubtless be built during the coming year.

The South Pennsylvania Iron and Railroad Company also contemplate to build during the coming year, a road to their mines near Loudon, in Franklin County, starting from our road at a point about six miles above Chambersburg, near Marion Station, and to erect two anthracite furnaces at their mines. It will be the policy of our company to encourage both these roads by all the legitimate means in our power; for each will greatly contribute to increase the business of our road, and promote the interest of the people of the entire valley. The resolutions of the Board, to extend their road from Hagerstown to the Chesapeake and Ohio Canal, have been already communicated to you, and since August last the work was let to a contractor upon terms which were satisfactory, and he is now engaged in constructing it; the grading and making the road bed ready for the superstructure will cost about \$96,000, and the rails, ties, water stations, &c., about \$90,000, and we expect to have the same completed and in running order by the 1st July next. This extension has been located to terminate at Powell's Bend of the Potomac River, with a branch to Williamsport, a distance of about two miles. But since this location, a movement has been made by the people of Virginia for a further extension of the road up through the valley of their State, by the way of Martinsburg and Winchester, or by the way of Charleston and the Luray Valley. Our action, therefore, as to the terminus on the Potomac will be suspended a few weeks to meet this exigency, and until they shall have determined the route for the further extension of the road; for each of the proposed routes demands a different point of crossing the Potomac River.

It has been the policy of the Board to put and keep our road in the highest state of perfection, hence our expenditures in the past year have been great; the entire track has been raised upon stone ballast, and there have been put into it five hundred and thirty-five tons of new iron, twenty-five thousand nine hundred and seventy-two oak cross ties, and two thousand three hundred and eighteen chairs. There have been laid sixteen hundred feet of new siding at Mechanicsburg, ten hundred and eighteen feet at Middlesex, two thousand feet at the junction of the South

Mountain railroad, five hundred and ninety two feet at Carlisle freight house, fourteen hundred and fifty feet at Greason station, two hundred and thirty-one feet at Alterton, four hundred and nineteen feet at Newville, and five hundred and ninety-three feet at Greencastle, making a total of one and a half miles, and all of which cost six thousand one hundred and forty-one dollars and thirty cents. Seventeen wooden bridges, over wagon roads and water courses have been taken out, and replaced with wrought iron girder bridges which cost, including masonry, four thousand four hundred and eighty-six dollars and five cents.

Anticipating a largely increased trade upon our road during the coming year, we will require the freight engine which we proposed to purchase last year, but did not, because of our heavy expenditures for other purposes. We will also need some additional tools in the shop; eight hundred tons of new and rerolled iron, and twenty-five thousand cross ties. At Shippensburg, an important point of shipment of iron ore, additional siding is required, and every facility should be furnished to cheapen the transportation of this article, which will be a most important item of revenue.

If it be not deemed expedient to change the point of terminus of the extension to the Chesapeake and Ohio Canal, this work may be completed by the 1st of July next, when provision must be made for the increased trade which it will produce. Reaching with our road that important point, we must be prepared to carry anthracite coal for the supply of furnaces upon the Potomac, lumber to that extensive agricultural region, and bring back the semi bituminous coal of the Cumberland mines to supply the engines and shops in the East. For this work we must now get ready, and it will require at least seventy-five new eight wheeled freight cars. We propose to build one new passenger car this year. It does not require much foresight to enable us to predict that before many years, the business to be done on our road will require a double track, and a prudent management suggests that this should be attained out of the profits of the road, and that the work should be done gradually, without interfering with the usual dividends to stockholders. And for this purpose it is suggested that we should now begin to double-track the road from Mechanicsburg to Whitehill, a distance of four and seven-eighth miles, a point to which the road is already double tracked—from Bridgeport.

This addition to our road would greatly facilitate even our present business; but when we contemplate the increase which the South Mountain Iron Company will in the next year bring to our road, such a facility for passing trains seems to be indispensable. The coming year will doubtless find both the Mont Alto and Loudon roads nearly, if not entirely completed.

The table annexed will exhibit the financial condition of the company, and working operations of the road."

Receipts and Expenditures for the year ending September 30th, 1869.

RECEIPTS.	
Cash and Cash items, October 1, 1869	\$312,155.04
Passenger Earnings \$191,831.76	
Freight Earnings.....	321,268.43
Mail Service.....	6,107.24
Adams Express	4,785.42
Other Sources of Revenue.....	15,776.39
	539,769.24
Stock Issued.....	200,395.00
	\$1,052,319.28

EXPENDITURES.

Dividends.....	\$94,438.53
Interest on Bonds.....	27,557.10
Expenses—Conducting transportation, \$93,451.07	
“ Motive power. 77,028.75	
“ Maintenance of Cars.....	12,543.80
“ Maintenance of Way....	90,371.46
“ General Ex- penses.....	14,362.94
“ Construction and Equip- ment.....	62,318.62
	347,076.64
Construction of Put mac Exten- sion.....	23,967.77
Trustees of Sinking Fund.....	394,990.00
Balance of Accounts.....	28,240.45
Cash, October 1, 1869.....	136,048.79
	\$1,052,319.28

The officers for the current year are President, Frederick Watts; Secretary and Treasurer, Edward M. Biddle; Superintendent, O. N. Lull; Directors, Frederick Watts, Thomas A. Biddle, Thomas A. Scott, Washington Butcher, Wister Morris, H. J. Lombard, Daniel O. Gehr, Thomas B. Kennedy, Edmund Smith, J. Edgar Thomson, Josiah Bacon.

The Northern Pacific Railway.

It is stated that the Directors of the company owning the franchise of the Northern Pacific Railway have completed a financial arrangement by which they will be able to commence the construction of that great national work. Messrs. J. Cook & Co., and E. W. Clark & Co., have undertaken to provide \$5,000,000 with which the work will be put under way. The ability of those eminent houses is known, and what they have hitherto essayed to do in the way of raising loans has been accomplished.

The plan of the company is to commence construction, at a point on the Mississippi & Lake Superior Railway, about 25 miles from Duluth, and to proceed west in a direct line to Fort Abercrombie, on the Red River of the North—a distance of about 200 miles. The western portion of this section, terminating on the Red River passes through an open country, of great fertility, unrivalled in any part of the world, according to all accounts, for wheat growing.

The next work to be undertaken will be the section extending from Fort Abercrombie to Fort Clark, on the Upper Missouri, through a region possessing a fine soil and climate.

When the line once reaches the Missouri, it will command the trade of Montana and the whole mountain country, and bring it to the lake region.

The work is to be pushed steadily towards the Pacific until completed. Afterwards it may be extended from its junction with the Duluth road to Mackinaw. In the meantime Duluth will remain its virtual eastern termination, and for all time will be its outlet for such of the produce of Dakota and Minnesota as is intended for shipment down the lakes, and the point to which commodities intended to go west on its line will be carried by steamers and sail vessels from the lower lakes.—*Detriot Post*, Dec. 30.

The Lease of the Little Miami and Columbus and Xenia Railroads by the Pittsburgh, Cincinnati and St. Louis Railroad—The Lease Unanimously Ratified.

Negotiations have been pending for some time past for the lease of the Little Miami and Columbus and Xenia Railroads by the Pittsburgh, Cincinnati and St. Louis Railroad Company. The proposition of the latter corporation has been favorably considered by the stockholders of the Little Miami and Columbus and Xenia Railroads. A meeting of the shareholders was called for yesterday to ratify the lease which had been agreed upon by the Directors of the above named corporations. It was held at the office of the company, corner of Pearl and Kilgour, and at this meeting 33,060 shares of the Little Miami and Columbus and Xenia Railroads were represented, and these were voted unanimously for the lease. The present capital stock of the latter corporations is \$5,358,600. This it was proposed to increase to \$6,000,000, the increase going to the credit of the Little Miami road. The stock represented in the lease is as follows:

Present capital stock of the Little	
Miami Railroad.....	\$3,572,400
Increased stock.....	641,400
Total	\$4,213,800

Capital stock of the Columbus and	
Xenia Road.....	1,786,200
Total.....	\$6,000,000

On this amount the Pittsburgh, Cincinnati and St. Louis Company, guaranteed by the Pennsylvania Central Railroad Company, agree to pay an annual net rental of 8 per cent. free of all taxes and assessments, or \$480,000 annually. This is equal to a net annual rental, free of all taxes and assessments, on the present capital stock of the Little Miami road of 9 44-100 per cent., or a net dividend of 8 per cent. per annum on the increased stock, with a surplus stock dividend of 17 96-100 per cent. on the present par value.

The directors of the Little Miami Railroad think this is the best disposition that could have been made of the road, for the benefit of the stockholders. The directors of the Little Miami have witnessed, with no little alarm, the rapid strides made by the Pennsylvania Central Railroad to reach Cincinnati. The recent purchase by that company of the Cincinnati, Wilmington and Zanesville Railroad, placed them within forty miles of this city, and they were no doubt seeking some other entrance to Cincinnati than over the Little Miami Railroad, in which event it would have proved disastrous. This was the principal reason the stockholders unanimously ratified the lease.

The principal objection urged against the leasing and consolidation of roads by the grand trunk line is, that it tends to the formation of giant monopolies. At the meeting of the stockholders of the Little Miami and Columbus and Xenia, the old Board of Directors was unanimously re-elected. The following gentlemen comprise the Board: H. J. Jewett, Jos. C. Butler, Charles P. Cassilly, Richard Lewis, Joseph H. Rodgers, Henry Hanna, Edmund Dexter, L. B. Harrison, W. H. Clement, Joseph R. Swan, Columbus; John Bacon, Springfield; Abraham Hiveling, Xenia.—*Enquirer*.

A New Railroad from Philadelphia to New York.

For several months past negotiations have been in progress between several small railway companies, whose charters have been obtained but whose tracks have not been laid, for a consolidation, and for extension to New York. On Wednesday afternoon a meeting of capitalists was held in Philadelphia, when steps were taken for the building of the road at an early day.

The Legislature of the State of Pennsylvania incorporated several years ago the Philadelphia and Attleborough Railroad Company, with authority to construct a railroad from Philadelphia through Attleborough, in Bucks county, Pa., to the Delaware River. A survey of the county has recently been made, and it has been ascertained that a line can be constructed from the terminus of this route, over routes already chartered by the Legislature of New Jersey, to New York—making a line much shorter than that of the “United Companies of New Jersey.”

At the Philadelphia meeting on Wednesday, prominent citizens of New Jersey were present and entered with enthusiasm into the project. Speeches were made by Henry M. Hamilton of New Jersey, Edward C. Knight of Philadelphia, (a Director of the Pennsylvania Central Railroad), A. S. Livingston of Trenton, N. J., Col. Freese of Trenton, N. J., District Attorney Gibbons of Philadelphia, and others. The Vice President of the Attleborough Company, (the title of which has been changed to the National Railway Company), stated that it was the intention of the projectors to construct a railway with double track steel rails, ballasted with stone, and equal in every respect to the best roads in Europe. All the bridges were to be of iron, and other railways with all highways were to cross the road above or below the track. He thought that with proper management and with these advantages, the running time would be equal to that of European roads, and that trains could make the trip from Philadelphia to New York in two hours.

Mr. Edward C. Knight, the Treasurer of the Company, said that there was already a sum subscribed sufficient to warrant the commencement of the building of the road, and that nothing should interfere with it.

Mr. A. S. Livingston, of Trenton, said that he had received the opinions of several legal gentlemen, who said that the road could be built as far as Elizabeth without any special legislation by the New Jersey Legislature.

Col. Freese, of Trenton, spoke for the interest of the city of Trenton and the country immediately adjoining, and he was of the opinion that his district would subscribe for more than their proportion of the capital stock.

District Attorney Gibbons said in relation to the question of legal impediments, that so far as he in conference with some of the most eminent lawyers of New Jersey could ascertain, after long and careful study, there was no difficulty in the way.

Subscriptions for 5,000 shares were made after the speeches, and the directors of the Attleborough Company were authorized to commence operations immediately.

The board of officers and directors under whose direction the scheme is proposed to be carried out, is composed of the following named gentlemen.

President, Mr. Henry Lewis of Philadelphia, Vice President, Mr. Henry Hamilton of Camden, Treasurer, Edward C. Knight of Philadelphia; Directors, Matthew Baird, Jacob Reigel,

Charles Gibbons, Charles M. Dupuy, of Philadelphia, Samuel K. Wilson, A. S. Livingston of Trenton, A. B. Clark of Oneida N. Y.

The amount of capital of the projected company has not been named.

Memphis, El Paso, and Pacific Railroad.

OFFICE, No. 90 BROADWAY,
NEW YORK, January 7, 1870.

To the Editor of the Railroad Journal.

SIR:—An editorial in the *Evening Post*, of the 5th instant, attacking this company, obliges me to ask space in your columns for a reply.

The accusations it makes were all put forward vehemently throughout the past year, in Paris. They were met there legally and officially, by suits against their authors. The result of strict investigation there by parties interested in knowing the exact truth, is the best answer to put now before our public here. These parties are our bondholders, contractors, and the government which authorized the admission of our bonds to the French Exchange, and the circulation of our securities among the French people.

The *Post* is right in its statement that no American company had hitherto been admitted to quotation on the French Bourse. It is not right in its statement of the means used to obtain this admission. Nor was it a sudden movement originating last spring. Persistent, steady, thorough work, through resident agents, had been in progress for more than two years, during which every possible information had been laid before the government and parties interested.

Its charter and franchises, and laws enacted in regard to them, everything relating to the country through which the road lies, and the great commercial results which would follow on its building, were made fully known to the persons with whom they were negotiating. The permission to admit our securities was finally obtained upon the understanding and agreement, that this admission should accrue to the advantage of French industry by applying the greater part of the money obtained from French people to the purchase of iron and engines for the building and operation of the road.

This opening out of new channels to French trade was thought worthy the fostering care of the government. This was the reason, and it was upon this understanding, that our land grant bonds—which show what they are upon their face—were admitted to quotation and sale. And contracts were accordingly made for 45,000 tons of iron and a corresponding number of engines.

Our bondholders, who were necessarily alarmed by those attacks, had the fullest means of information given them. Their confidence is shown by their continuing to hold their bonds, and draw the interest, which they received in July last and now in January.

My dates from Paris are to the 22d of December. Up to that time no suit whatever had been instituted against the company, except one by a person claiming damages for refusing to let him have bonds to sell, under an alleged contract which the company repudiates.

Our bonds were never withdrawn, nor was there a thought of doing so. On the contrary, an additional sale for 10,000,000 francs has just been made, and other negotiations are in progress with parties having full knowledge of the condition of the company and the assaults upon it.

The last official act of the French government, which was the admitting to payment of the taxes on the bonds, and the accepting of the security of Mallet Freres for their continued payment, was not made until August last. This recognition is the direct act of the government, and was done through M. Magne himself (the Minister of Finance referred to by the *Post*), long after all these discussions had been made familiar by the French newspapers.

The only real trouble to the company came from a source which it could not have foreseen, and for which it was not in any way responsible. We had been for two years applying to Congress, with a fair prospect of success, for its authority and aid in establishing our line. In the Congress preceding the present, our bill asking for subsidy had been amended by one asking for guarantee of interest. On account of the indisposition of Congress to grant moneyed aid, this bill was again amended by one asking simply the right of way. This bill passed the House twice by large majorities at the close of one Congress and at the beginning of another. It was mistaken in Paris for the bill, also pending in the House, which granted guarantee of interest for our construction bonds. This mistake first reached the knowledge of the company here by the French newspapers, which had already spread it through France. It was announced by them that this bill gave to our construction bonds a guarantee of 6 per cent. But these bonds were not in market and have not been offered for sale. The bonds sold on the French market were land grant bonds of the company, which say what they are on their face. Neither journals or brokers ever said that these had a guarantee of interest. The error was confined to the construction bonds, and this was from an error of accident and not from intention.

When I reached Paris, immediately afterwards, I found that this, which could have been a situation easily explained and corrected without difficulty, had been magnified and engendered by rival and hostile interests. Under the best legal advice, I adopted such measures as in my judgment would adjust affairs, with the least injury to the company, its bondholders or contractors, and preserve for the company the strong position it had acquired. All the explanations needed for the information of the public were given, and a semi-monthly newspaper was established, with the object of keeping up full information concerning the condition of the company and the progress of its road.

In my efforts to protect this really national work, I was chiefly obstructed by the active and malignant hostility of rival railway interests, and of certain financial agencies which the company had omitted to employ, and by the unusual conduct of the American Legation, which became a recognized bureau of information against our company. A Legation represents its government, and its official position can not be personally used. This conduct of our Legation, which never in any way referred for information to the company's office in Paris, but constituted itself the partisan of our opponents, was accepted as expressing, in the usual way, the views of our government towards the Memphis Pacific as a national road, and the standing and information in which it was held at home. Among other acts, I will at this time only cite, that I was given to read a letter from the Legation to the representative of an adverse railway interest, to the effect that the Memphis and

El Paso road was a speculative enterprise without foundation.

In respect to the right of way which we are asking, there only remains now for Congress to grant a strip across the Territory of New Mexico 150 miles in length, the rest having been acquired from private corporations.

We own and control in Arkansas, the Memphis and Little Rock Railroad. In Texas the Memphis and El Paso Company has fully complied with the conditions of its charter, giving us the ownership and control of the line through that State. In Arizona we have purchased and own the charter of the Arizona Company, of which the line traverses that territory, and have complied with the conditions of its charter.

In California we have purchased and own the charter, franchises and property of the San Diego and Gila Southern Pacific and Atlantic Railroad Company, which traverses that State—including 9,000 acres of land in the harbor of San Diego. In the harbor of Norfolk, we own over 1,000 acres. In addition to these, contracts and arrangements have been made by the company with other roads.

We have contracted with the Western Union Telegraph Company to put up a line of telegraph along our road. Arrangements are partly completed for establishing a steam freight and emigrant line between Anvers and Norfolk, in connection with the Company. We have a corps of engineers engaged in locating the San Diego and Gila line. We are indebted to the War Department for military protection to our surveying parties, and for permission to purchase their supplies from the government depots in that quarter.

Under actual circumstances it is not too much to say that the future of the road may be regarded as secured, notwithstanding the strength of the combination against it. Our contracts are in the course of uninterrupted execution. Shipments of rails have begun to reach New Orleans, and the first ten engines will be ready for delivery by the end of February. We are about to lay the rails on the Texas Division. The Memphis and Little Rock Road, of which 100 miles are now in operation, will be fully completed by the 1st of July. With the work in progress we are expecting to have, at least, 250 miles in operation before the close of this year, with an estimated net income of over a million of dollars.

I regret to have to ask so much space, but even this is only sufficient for the brief and rapid summary that does not do justice to the value of the work accomplished. It is barely sufficient to give the public an opportunity to compare a statement of facts with the charges which the *Post* has lent its editorial authority to send out broadcast over the country against our work, a work that has twice received the approval of the House of Representatives, and which, otherwise unaided, is making its own way through a country impoverished by war, and which offers the quickest and best means for a true reconstruction in restored and extended industries, and in the prosperity and content these will carry with them.

Respectfully your obedient servant,
J. C. FRENCH, President.

—The New York Board of Health reports that there are 20,000 tenement houses in that city, and that 700,000 of its inhabitants live in them.

Railway Law Decisions.

SUPREME COURT OF PENNSYLVANIA.

GILLIS v. THE PENNA. RAILROAD CO.

The plaintiff was not a passenger on the railroad, but was among the crowd on the platform of the Railroad Co., at Johnstown, on the day Andrew Johnson addressed the people. And owing to the great multitude who overloaded the platform, it gave way, and plaintiff was injured.

Error to Common Pleas of Cambria County.

SHARSWOOD, J.—The platform of a railroad company at its station or stopping place is in no sense a public highway. There is no dedication to public use as such. It is a structure erected expressly for the accommodation of passengers arriving and departing in the train. Being unenclosed, persons are allowed the privilege of walking over it for other purposes, but they have no legal right to do so. The servant of the company, after requesting them to leave, can remove them by whatever force may be necessary; *Barker v. The Midland Railway Co.*, 18 C. B. 46; *Corinth v. Power*, 7 Metc 596; *Hall v. Power*, 12 Id 485; *Harris v. Stevens*, 31 Verm. 76. Still, even a trespasser on the land of another can maintain an action for a wanton or intentional injury inflicted on him by the owner. It will appear on an examination of the interesting and elaborate discussion in the English courts of the question whether an action could be supported by such a trespasser for personal harm occasioned by a spring-gun, man-trap or dog spike, set on the grounds of the defendant, in which it was determined that where there was no proper warning given, such an action well lies, that it was rested mainly on the ground that a man can not lawfully do indirectly that which it is unlawful for him to do directly. He can not shoot or maim or set a ferocious dog upon a mere trespasser. He shall not then place a concealed machine where it will be likely to do the same thing, or let such a dog loose in his grounds without warning; *Deane v. Clayton*, 7 Taunt. 489; *Holt v. Wilkes*, 3 B. & Ald. 304; *Bird v. Halbrook*, 4 Bing. 628. It is however, equally well settled that the owner of property is not liable to a trespasser, or to one who is on it by mere permission or sufferance, for negligence of himself or servants, or for that which would be a nuisance if it were in a public street or common, where all persons had a legal right to be without question as to their purpose or business.

It will be unnecessary to pass in review all the cases which in England and this country established the principle, or to examine and reconcile, if possible, those which seem to conflict with it. It is put in many of them on the grounds of contributory negligence in the trespasser. It is plain, however, that the two principles are entirely independent of each other, though they do in fact often concur, and thereby have made confusion. In *Hounsell v. Smith*, 7 C. B. N. S. 731, the plaintiff fell down a quarry, which was left open and unguarded on the unenclosed waste lands of the defendant, over which, in passing from one public highway to another, the public were freely allowed to walk; it was held that the defendant, the owner, was under no legal obligation to fence the excavation, unless it was made so near to a public road or way as to constitute a public nuisance, or in other words, to render the lawful use of such public road dangerous. "No right is alleged," says Mr. Justice Williams; "it is merely stated that the owners allowed all persons who chose to do so, for recreation or for business, to go upon the waste without complaint; that they were not

churlish enough to interfere with any person who went there. He must take the permission with its concomitant conditions, and it may be, perils." This decision was cited with approbation and affirmed in *Binks v. The South Yorkshire Railway and River Dun Co.*, 3 Best & Sm. 244. But a much stronger case, and more directly in point, is *Lygo v. Newbold*, 9 Exch. 302. It was there decided that even an express permission given to the plaintiff by the defendant's servant to occupy a place to which she had no right would not cast responsibility on the master. The plaintiff in that case without the defendant's authority, but by the permission of his servant, rode in a cart along with some goods which the defendant had contracted to carry for her. The cart, being insufficient, broke down, and the plaintiff was injured. It was held that she could not recover.

Thus the three superior courts of England, the Common Pleas, Queen's Bench and Exchequer, concur in this doctrine.

But our own case of *Knigt v. Albert*, 6 Barr 472, is on all fours with them. It was there decided that though no action lies in Pennsylvania for trespass by cattle pasturing on unenclosed woodland, yet, that not being a matter of right, the owner of the land is not liable for an injury sustained by such cattle falling into a hole dug by him within the bounds of his land and left unenclosed. "He who suffers his cattle to go at large," says C. J. Gibson, "takes upon himself the risks incident to it." So must a person, using by permission or sufferance the private property of another, take upon himself the risks incident to it. To the same effect, if closely examined, is *The Philadelphia and Reading R. R. Co. v. Hummel*, 8 Wright 378. The plaintiff below in that case was a boy of tender years, to whom no contributory negligence could be imputed. He was on the track of a railroad, not at a crossing. It was held that the railroad company, as to persons so on the track, were not bound to give any warning at starting. "Blowing the whistle of the locomotive, or making any other signal," said Mr. Justice Strong, "was not a duty owed to the persons in the neighborhood, and consequently the fact that the whistle was not blown, nor signal made, was no evidence of negligence." And, again: "There is as perfect a duty to guard against an accidental injury to a night intruder into one's bed-chamber as there is to look out for trespassers upon a railroad where the public has no right to be." No reference is made in the opinion to *Lynch v. Nardin*, 1 Q. B. 29, a decision much controverted, but one which has stood its ground. But in that case the careless act of the defendant, in leaving a horse and cart standing in a public street without anybody to watch it, amounted to a nuisance, and it is to be distinguished on that ground. Had it been left standing on an open, unenclosed lot, the ruling in all probability would have been different. Yet a doubt has been more than once expressed, whether when a child receives an injury from indulging in what is called "the natural instinct of a child," by getting up behind a gentleman's carriage whilst it is in motion, or standing in charge of coachman, though without a servant on the footboard, the principle of *Lynch v. Nardin*, would apply; *Wilson v. Brett*, 11 M. & W. 113; *Lygo v. Newbold*, 9 Exch. 302. It would matter not, so far as his master was concerned, whether the coachman allowed it or not.

The application of this principle to the determination of the case in hand is not difficult. The plaintiff may not have been technically a trespasser. The platform was open; there was a general license to pass over it. But he

was where he had no legal right to be. His presence there was in no way connected with the purposes for which the platform was constructed. Had it been the hour for the arrival or departure of a train, and he had gone there to welcome a coming or speed a parting guest, it might very well be contended that he was there by the authority of defendants, as much as if he was actually a passenger, and it would then matter not how unusual might have been the crowd, the defendants would have been responsible. As to all such persons to whom they stood in such a relation as required care on their part, they were bound to have the structure strong enough to bear all who could stand on it. As to all others they were liable only for wanton or intentional injury. The plaintiff was on the spot merely to enjoy himself, to gratify his curiosity or to give vent to his patriotic feelings. The defendants had nothing to do with that. They were conveying the President of the United States and his party on a special excursion train. They must have stopping places. They were certainly under no obligation to keep them secret. On the occasion in question it seems that they meant to do so in order to prevent detention and confusion. As we have seen, they can not be made liable by the unauthorized act of one of their employees, through whom it leaked out what the hour was the train was expected to arrive at Johnstown, nor for that of another in backing up the train so as to give the people who had assembled an opportunity of seeing and hearing the President. I am bound to have the approach to my house sufficient for all visitors on business or otherwise; but if a crowd gathers upon it to witness a passing parade and it breaks down, though it may be shown not to have been sufficient even for its ordinary use, I am not liable to one of the crowd,—I owe no duty to him. If a traveler by foot, on the open track of a railroad, crosses a bridge, which ought to be, but is not in its ordinary use, strong enough to bear a locomotive and train of cars, and a rotten board breaks down under him, the company are not liable to him, for they owe him no duty. However much to be lamented was the sad occurrence which occasioned this suit, and however much sympathy may be felt for those who were injured, and the families of those who lost their lives, we are of the opinion that the circumstances of the case were not such as to cast any pecuniary responsibility on the railroad company, and that the learned judge below was therefore right in directing the jury to find a verdict for the defendants.

Judgment affirmed.

STREET RAILWAYS FOR LONDON.—The British capital has always been without the convenience of street railways, notwithstanding the vociferous efforts, some years since, of G. F. Train. About twelve months ago, however several tramways for the metropolitan district were authorized and the first of these has been very recently commenced. The following are some of the details of the work, as given by the *Mechanics' Magazine*.—"The rails are 4 inches broad, and have a groove on the face for the flange of the wheel. They are spiked upon longitudinal sleepers of Baltic timber, 6 inches by 4 inches. The sleepers are bedded in cast-iron chairs, and kept in gauge by cross ties of iron, dovetailed at the ends into the chairs, and abutting upon the sides of the sleepers. The roadway is of the best description, having a considerable depth of concrete under the paving stones. The sleepers will be packed with Portland cement, which will furnish a firm and durable bearing. The line is 2½ miles in length."

Railroad Items.

—S. B. Reed, General Superintendent of construction of the Union Pacific Railroad, writes in response to an inquiry concerning the anticipated effect of snow fall on operation. Experience since 1864 convinces him that the road can be successfully operated with as little expense or trouble as in New England, New York or the Western States. There has been no snow as yet that could not be controlled by fences.

He says: The first winter that we were building in the mountains, trains were run daily to the end of the track, near Sherman, which is 1100 feet higher than any other point on the line. The grading and building was carried on with less delays from storms than would have been encountered in the East. I have never seen more than ten inches of snow east of the Sierra Nevadas, for the reason that the moisture carried inland by the warm trade winds from the Pacific, as it rises up the slope of the Sierras into a cold atmosphere, is condensed, and falls in snow or rain, and the wind comes over to the plains and mountains east, exhausted of moisture; hence the dry and desert country east of the Sierras through the mountain country. Nearly all the moisture that gets over the high mountains bordering the sea is precipitated on the summits of the mountain ranges, instead of in the plains and on the lower mountains in the vicinity of the road.

In supplying water for engines we put up wind-mills on the first 600 miles which worked successfully east of the mountains, but in the mountains there was not wind enough to drive the mills.

—A combination of the California and Oregon Railroad with the Yuba Railroad, thus forming a connection from Roseville, the junction with the overland road has been lately effected. The object of this combination is undoubtedly to make the junction from Marysville to the Central Pacific railroad, as required by the franchise, and also to withdraw all the railroad land from the market by the completion of 50 miles of road to Chico. Articles of incorporation of the combination have been filed in the office of the Secretary of State; term of existence 50 years; road to extend from Roseville into the State of Oregon; capital stock \$15,000,000; length of road in California 313 miles, which looks like following the Elliot survey, as it is about the distance on the surveyed route through Sacramento and Shasta Valleys. The Directors are Leland Stanford, C. P. Huntington, Mark Hopkins, Charles Crocker, E. B. Crocker, E. H. Miller, Jr., and A. P. Stanford. As it will be two years again before the next Legislature meets, probably it would be well to secure the privilege of voting aid to a railroad company, to pass through the western part of the county, if necessary.—*Oregon Sentinel*, Jan. 7.

—The Philadelphia *Ledger* says:—A correspondent asks how much the Reading Railway Company, since it first went into operation, has paid in cash dividends. We answer, that when the announced cash dividend of 5 per cent. is paid, the company will then have paid in all in cash 56 per cent. The company has been in operation, we think, twenty-eight years, which makes the annual average dividends in cash just 2 per cent. It is proper to say, however, that the company has made numerous stock dividends within the time, enough, probably, to make it net annually to those who have steadily held it from the beginning 10 per cent. A

stock dividend, when the stock is at or above par, pays as well as cash, if the recipient chooses to realize on it.

—The following gentlemen have been elected directors of the Atlantic and Great Western Railway: Rush C. Hawkins, Thomas W. Kennard, Wentworth Hayshe, J. P. Pannes, W. P. Rogers, Lawrence Johnston, D. J. Day, W. W. McFarland, Charles Day, Joseph Lerocque, William H. Taylor, Samuel L. M. Barlow and John Gardner, of New York; David Jones, Ravenna; Tatlow Jackson, Philadelphia; William Lee, Randolph; Jacob Crall, Ashland; Jacob Ribler, Galion; J. W. Tyler, Cleveland; George R. Babcock, Buffalo; James McHenry, London.

—The annual report of the Treasurer of the State of North Carolina shows that the amount of "special tax" bonds issued to railroads is \$11,510,000. The issues of the several roads are as follows:

Western Railroad.....	\$1,320,000
Western North Carolina.....	6,640,000
Wilmington, Charlotte and Rutherford.....	1,500,000
Williamstown and Tarboro	300,000
Atlantic, Tennessee and Ohio.....	1,750,000

Total.....\$11,510,000

—Col. Loomis, President of the National Land Company, closed last year's business Dec. 30, 1869, with a sale of 52,348 acres of land for \$176,124. The bulk of this sale was to M. Alexander McDonald, of Scotland, President of the British American Emigrant Association, which society will send 300 Scotch families next year to occupy these lands. The Kansas Pacific Railroad Company, have provided and have on sale at all their principal offices their own tickets to all parts of the United States. The tickets of other roads have been sent home.

—On the Lake Superior and Mississippi Railroad construction trains are running to Hinckley, 77 miles north of St. Paul and about half way to Duluth. On New Year's day passenger trains commenced running regularly. Eighteen hundred men are engaged in pushing the road, and progress is very rapid, notwithstanding the cold weather.

—The gross receipts of the Central Pacific Railroad for the first four months of 1869, the portion of the year before its completion as a through line, were \$1,306,913 15; the operating expenses for the same time, were \$824,014 06. For the six months since the opening of the road in connection with the Union Pacific for through travel, the gross earnings have been \$3,400,651.58; operating expenses, \$1,678,197.93; net earnings, \$1,722,454.66.

—On the Davenport and St. Paul Railroad, over 500 men are at work on the grade between Davenport and Maquoketa. The depot at the latter place, says the *Clinton Herald*, is not yet located, nor the money (\$10,000) raised to take the road through the hill into the town.

—Of the Winona and St. Peter Railroad, There were received and stored in the Winona elevator for two weeks ending Dec. 25, a total of 173,567,010 bushels of wheat. There were shipped during the same period 73,166,010 bushels, leaving a balance in elevator on date above given, of 100,400,030 bushels.

—The East Tennessee and Virginia and the East Tennessee and Georgia Railroads, have been consolidated. The new company has assumed the name of the "East Tennessee, Virginia and Georgia Railroad Company.

The Blue Ridge Railroad.

Mr. Doyle, of Oconee county, offered the following joint resolution in the House of Representatives on Monday last. It was referred to a special committee of seven from the House and three from the Senate:

WHEREAS, the building of the Blue Ridge Railroad has been a favorite enterprise of the people of South Carolina for twenty years, and the present General Assembly has sustained it, with an approximation to unanimity unsurpassed in the annals of legislation on a subject involving such grave considerations; and

WHEREAS, The management of the affairs of said road have been such as to elicit much inquiry, and to reflect on both the Legislature and those who manage the affairs of said enterprise; therefore, be it

Resolved, by the House of Representatives, the Senate concurring, that a committee, to consist of three members of the House, and two of the Senate, be appointed, with full power to send for persons and papers, to investigate every transaction had since the reorganization of the Blue Ridge Railroad Company, with instructions to report the result of their investigation at least ten days before the adjournment of the present session.—*Andersonville Intelligencer*, Jan 13

Fresh Garden, Flower, Fruit, Herb, Tree, Shrub and Evergreen Seeds, with directions for culture, prepaid by mail. The most complete and judicious assortment in the country. Agents wanted.

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Notice to Contractors.

CHESAPEAKE AND OHIO RAILROAD.

SEALED PROPOSALS will be received at the Engineer's office at Charleston, W. Va., until 12 M. March 1, 1870, for the GRADUATION, MASONRY and SUPERSTRUCTURE OF BRIDGES on the Chesapeake and Ohio Railroad between the Falls of Kanawha and the Ohio River, including THREE MILLIONS CUBIC YARDS OF EXCAVATION, and SEVENTY THOUSAND CUBIC YARDS OF MASONRY.

Also, at the Engineer's office at Richmond, Va., until 12 M. March 10 1870, for several heavy sections east of the Falls of Kanawha, including the unfinished work near Milboro' and that eight miles east of the White Sulphur Springs the Great Bent tunnel 6,0 feet; Lewis tunnel, 3,800 feet; five other tunnels from 500 to 1,700 feet long; several sections in rock cutting; and about 70,000 cubic yards of masonry.

Profiles and specifications can be found at the office of the company 54 William street New York, on and after February 1; at Richmond, Va. and at Charleston W. Va., on and after January 15, 1870. The company reserves the right to reject any or all the bids offered, and to make private contracts for the work.

Information as to time, etc., will be given at the letting. For further information apply to A. D. Whitcomb, Chief Engineer, Richmond Va., or to W. A. Kiper, Principal Assistant Engineer, Charleston, West Virginia.

C. P. HUNTINGTON, President.

27-1-70, 4.

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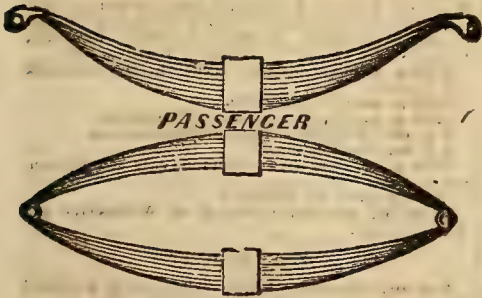
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Boston and New England Passengers, with their Baggage, are transferred FREE OF CHARGE in New York.

The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a daylight journey over this line, will find in its ever changing landscapes subjects of continual admiration and interest.

Baggage Checked Through

And Fare always as Low as by any other Route.

ASK FOR TICKETS VIA ERIE RAILWAY,

Which can be obtained at the Company's Offices in Cincinnati, 80 West Fourth Street 115 Vine St., 4 Burnet St. and foot of Broadway. (Spencer House Block), and at all principal Ticket Offices in the South and South-west.

W. B. SHATTUCK,
General Southern Agent.

W. M. R. BAHR,
Gen'l Pass'r Ag't

GRAND SCENERY!

QUICKEST ROUTE

59 Miles in Distance Saved.

Baltimore & Ohio R.R.

TO—
BALTIMORE,
PHILADELPHIA,
NEW YORK, and
BOSTON,

WITH THE PRIVILEGE OF GOING TO

WASHINGTON

FREE!

NO CHANGE OF CARS

From Cincinnati to Baltimore and but ONE
or Columbus to Baltimore CHANGE to
Philadelphia and New York.

Ask for TICKETS and
BAGGAGE CHECKS via Baltimore & Ohio R.R.

J. L. WILSON, Master of Transportation.

L. M. COLE, General Ticket Agent.

G. B. GIBSON, General Western Passenger Agent.

Cincinnati, Hamilton & Dayton Railroad.

Trains run to and from Cincinnati as follows:

	DEPART.	ARRIVE.
Eastern Express (Erie Railway).	7:00 A. M.	6:30 P. M.
do do do	9:45 P. M.	7:00 A. M.
Toledo, Detroit & Canada.	7:11 A. M.	10:25 P. M.
do do do	6:30 P. M.	7:00 A. M.
Lima Fort Wayne & Chicago.	7:15 A. M.	10:25 P. M.
do do do	2:30 P. M.	5:40 P. M.
do do do	6:30 P. M.	7:30 A. M.
Sandusky, Cleveland & Buffalo.	7:15 A. M.	5:40 P. M.
Springfield Accommodation	2:30 P. M.	10:20 A. M.
Sandusky, Cleveland & Buffalo.	6:30 P. M.	10:20 A. M.
Muncie & Indianapolis.	7:15 A. M.	10:25 P. M.
do do do	5:00 P. M.	1:20 P. M.
Hamilton, Easton & Richmond.	7:15 A. M.	10:25 P. M.
do do do	5:00 P. M.	10:20 A. M.
Hamilton Accommodation.	9:30 A. M.	8:45 A. M.
do do do		6:30 A. M.

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; or at the new office, corner Vine and Baker streets, and at the respective depots. East Front and West Sixth streets.

D. McLAREN, Gen'l Superintendent.

SAM'L STUBBS, Gen'l Ticket Ag't.

Omnibuses call for passengers.

JANUARY 1st, 1870.

Cincinnati to St. Louis Without Change of Cars.

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph
Jefferson City, and all points on the Lower Mis-
sissippi River, and on the the Illinois
Central Railroad.

TRAINS RUN AS FOLLOWS:

St. Louis, Evansville and Cairo	
Mail.	7:15 A. M. 10:55 P. M.
Good Accommodation.	3:10 P. M. 8:45 A. M.
Through Western Express.	5:11 P. M. 8:30 P. M.
Night Express.	10:20 P. M. 6:00 A. M.

The 5:10 P. M. train runs daily. Trains run by Vincennes time, 19 minutes slower than Cincinnati time.

For tickets or information apply at Office 132 Vin-
Street. Corner Front and Broadway; and at Depot, Foot
Mill Street.

E. G. BONDURANT, Superintendent, Cin. O.

C. E. FOLLET, Gen'l Ticket Ag't, St. Louis, Mo.

Best Route to St. Louis and Chicago

INDIANAPOLIS,

CINCINNATI

-AND-

LAFAYETTE RAILROAD

Great Through Passenger Route from CINCINNATI to

ST. LOUIS,

CAIRO,

CHICAGO,

Memphis, New Orleans, Springfield, Quincy
Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West,
North West and South-west.

The 7:35 A. M. train runs daily.

ON AND AFTER SUNDAY, DEC. 5TH, 1869, TRAINS WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail.	7:20 am	12:40 am
St. Louis and Springfield Express.	2:40 pm	7:35 am
St. Louis and Springfield Express.	1:20 pm	3:42 pm
Lawrenceburg Accommodation.	10:10 am	2:35 pm
Lawrenceburg Accommodation.	4:0 pm	8:25 am

*The 10:10 pm. train will leave Sundays, but not on Saturdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail.	7:00 am	10:15 am
Chicago Express.	6:50 pm	9:30 pm
Harrison Accommodation.	5:30 pm	7:10 am

Through Tickets can be obtained at the Burnet House Office, corner of Third and Vine; River Office, corner of Walnut Street and River; and at Depot, corner of Plum and Pearl streets. The splendid Passenger Depot of the I. & O. Railroad is about a mile nearer the business center of the city than the Depot of any other railroad, and within a few squares of the Postoffice and principal hotels and Steamboat landings.

J. F. RICHARDSON, Superintendent.

A. E. CLARK, General Ticket Agent.

Philadelphia, Wilmington & Baltimore

RAILROAD!



FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

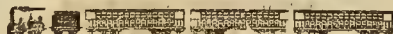
1:15 (Express Monday excepted), 8:15 A. M.; 11:45 A. M. (Express); 2:30 P. M.; 11:30 P. M. night.
On Sundays 4:30 A. M.; 11:30 P. M.

Leave Baltimore for North and West 7:35 A. M.; 10:20 A. M. (Express); 1:10 P. M. (Express); 6:35 P. M.; 8:2 P. M. (Express)

SUNDAY TRAINS—Leave Philadelphia for Baltimore at Washington at 4:15 A. M. and 11:00 P. M. Leave at New York for Philadelphia at 8:25 P. M.

Leave Philadelphia for Wilmington at 11:30 P. M. Leave Wilmington for Philadelphia at 8:30 P. M.

The Old And Reliable Route.



Through to Pittsburg without Change.

THE PITTSBURG, FORT WAYNE & CHICAGO RAILROAD, in connection with the Cincinnati, Hamilton & Dayton, and Little Miami Railroads, still continue to transport produce and merchandise between Cincinnati and Pittsburg, Philadelphia, Baltimore, New York or Boston, and all Eastern points with the greatest promptitude and dispatch.

For Rates, Bills of Lading, or any information desired, shippers will please apply to

H. W. BROWN & CO.,

No. 27 West Third Street, Cincinnati.

W. P. SHINN, General Freight Agent.

Pittsburg, Pa.

LOUISVILLE & CINCINNATI
SHORT-LINE RAILROAD.

Time only 5 hours

Fare Only \$3.50—Transfer from Hotel or
Residence to Depot, in Covington, Free.

THE SHORTEST ALL-RAIL ROUTE TO
Louisville, Nashville, Memphis, New
Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail.	7:35 A. M.	2:30 P. M.
Evening Express.	7:15 P. M.	3:45 P. M.
Night Express.	11:1 P. M.	5:00 A. M.
Walton Accommodation.	4:0 P. M.	9:35 A. M.

The 7:35 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on the Walton Accommodation, offer great inducements to the citizens of Cincinnati and Covington who wish to purchase country residences or small farms for gardening. This train leaves late in the afternoon, and arrives early next morning, giving all day to attend to business. For further information as to routes, low fare, &c., please apply at No. 1 Burnet House or Depot, Covington, Ky.

SAM'L GILL, Gen'l Supt. Louisville.

CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Liberty st., connects at Hampton Junction with the Delaware, Lackawanna, and Western Railroad, and at Easton with the Lehigh Valley Railroad and its connections, forming a direct line to Pittsburg and the West, without change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago, Cincinnati, St. Louis, etc., with but one change of cars. Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk, Williamsport, Wilkesbarre, Mahanoy City, Tuckahoe, &c.

7:15 a. m.—For Somerville.

8:30 a. m.—For Flemington, Junction, Stroudsburg, Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.

12 m.—For Flemington, Easton, Allentown, Mauch Chunk, Wilkesbarre, Reading, Columbia, Lancaster, Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.

3:50 p. m.—For Easton, Allentown, Mauch Chunk and Belvidere.

4:50 p. m.—For Somerville.

5:25 p. m.—For Somerville and Flemington.

6 p. m.—For Easton and intermediate stations.

7 p. m.—For Somerville.

7:50 p. m.—EMIGRANT—Stopping only at the principal stations.

9:00 p. m.—For Plainfield.

11:50 p. m.—For Plainfield, on Wednesdays and Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,) for Easton, Allentown, Harrisburg, and the West without change of cars to Cincinnati or Chicago, and but one change to St. Louis. Connects at Harrisburg for Erie and the Oil Regions. Connects at Junction for Stroudsburg, Water Gap, Scranton, &c. Connects at Phillipsburg for Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Saturdays.) For Easton, Bethlehem, Allentown, Reading, Harrisburg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars to Pittsburg and Chicago. Connects at Junction with Delaware, Lackawanna and Western Railroad for all stations to Scranton. This train will be run to Easton on Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton, Allentown, Reading, Harrisburg, Pittsburg, and the West—connects at Harrisburg with train for Williamsport, Erie, &c.

Sleeping cars through from Jersey City to Pittsburg every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15, 8:15, 8:30, 9, 9:20, 10:30, 11:10 a. m.—12 m., 1:10, 2:20, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:15, 7:10, 7:22, 7:40, 8:10, 9:00, 9:40, 10:45, 1:50 p. m.

Tickets for the West can be obtained at the office of the Central Railroad of New Jersey, foot of Liberty st., N. Y.; at No. 1 Greenwich St., Nos. 154, 171, 526 Broadway; at No. 10 Astor St., and at the principal hotels.

R. E. RICKER, Superintendent.

H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - } Editors
T. WRIGHTSON,
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, FEBRUARY 3, 1870.

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

ADVERTISEMENTS.

A square is the space occupied by ten lines of Nonpareil.

One square, single insertion.....	\$ 2 00
" " per month.....	5 00
" " six months.....	15 00
" " per annum.....	25 00
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" " six months.....	135 00
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Cards not exceeding four lines, \$7 00 per annum.

WRIGHTSON & CO., Prop'r's.

The Chesapeake & Ohio Railroad—A Further View.

In two articles we have already published on this subject we have given a general outline of the plan and its effects. Let us take for a moment a look at the country between Cincinnati and the great Atlantic in the South. What do we see? Just in front of us is a little railroad from Cincinnati to Lexington, about 90 miles—and that, if any one happens to go in that direction, he stops; looks around, at what is little more than a suburb of Cincinnati, and knows no more of the Southern country. Then perhaps, he goes up the river, and gets to Parkersburg, or Wheeling, then he gets on to the Baltimore road, and goes on to Baltimore. That is all very well; but where is the great South? Away for a thousand miles is a vast country, of which he knows nothing. By and by perhaps, he gets on a little steamer, and runs away a little up the Kanawha; and then there stands in front of him great mountains, and he stands and looks; but, what is beyond them? Where is the South? He heard of the great battles around Richmond; here are some men who were there. He heard of Norfolk and its fine harbors, of Wilmington, and of Charleston, but where is the South to him? It is positively an unknown land to him! Don't he hear from there? Oh yes! but he hears through New York; he sends there through New York, just as he does to England and France. Is this right in this day of great and rapid commercial development? Cincinnati said no, when she voted ten millions to

the "Southern road;" but, there is one-third of that great southern horizon, which the Southern road does not reach, and we want to interest the people on that. If we can do no more, we would let them know what is going on, and show them it is their interest to take the matter up in earnest. In the first place let us see the country immediately south and east of us, and ascertain if we can, how it stands in relation to railroads. Without taking into view South Carolina and Georgia, in which there are many railroads, let us take Kentucky, West Virginia, Virginia and North Carolina, and see the proportion of railroads in them:

	Surface Sq. Miles.	Railroads Miles.	Ratio.
Kentucky.....	37,680	800	1 to 46
West Virginia.....	18,000	2,200	1 to 28
Virginia.....	43,352		
North Carolina.....	45,000	1,200	1 to 37

Now if we compare this with the proportion of railroads in the three States on the north bank of the Ohio, we shall see how it is we can not look over the mountains to the South. The Ohio.....3,500 Mls. of R.R., 1 to 12 of surface; Indiana.....2,800 " " " 1 to 13 " " Illinois.....3,600 " " " 1 to 16 " "

Nearly 10,000 miles of railroad in the three States on the north bank of the Ohio. What is the consequence? Why, the seven or eight millions of people who live in those States are nearly as close, and as well known to each other, as if they lived in three counties, as communications were not many years since. But, we look to the South, and except here and there, we can not get even a glimpse of the great country which lies beyond. The following paragraph from a recent statement put forth by the company sets forth the fact we have commented on more in detail; classifying the States into five groups, viz: New England, Middle, Western, Southern and Pacific States, we have the following instructive statistics:

From the close of 1865 to the close of 1868, the increase in railroad mileage in the six New England states was 175 miles; in the six Middle states, 226 miles; in the Southern states, 1,061 miles; in the ten Western states, 4,042 miles; and in the three Pacific states, 656 miles. Massachusetts had the greatest ratio to its area, or 1 mile of railroad to 5.47 of area; Connecticut 1 to 7.34; New Jersey 1 to 8.55; New York 1 to 14.12; Pennsylvania 1 to 10.46; Ohio 1 to 11.76; Indiana 1 to 13; Illinois 1 to 16.11; and even South Carolina 1 to 27.31 square miles; while Virginia had only 1 to 27.94 of area, and Kentucky 1 to 46.25 miles. Virginia and Kentucky, two of the most favored of nature, are deficient in railroad mileage as compared with area, far beyond their natural position. A glance at the map will show that there is no equal area of fertile territory east of the Mississippi in which the railroads are so deficient as that between the Baltimore and Ohio, and the East Tennessee lines.

The district, (26 counties,) tributary to the Chesapeake and Ohio line contained, by the census of 1860, a population of 321,400. Counting the region traversed by the exten-

sions to Lexington and Cincinnati, it is capable of supporting a population of three millions.

Three millions! Yes, it will support six millions without any difficulty, but the point is: 1st, to get at it; and 2nd, to develop it. Unless we are entirely mistaken, the Chesapeake and Ohio Railroad is destined to open up the north-eastern portion of the great Southern horizon in a way which even the most sanguine can now hardly comprehend. It will do this, both on local and general grounds. Let us state some of them:

1. The line via the Chesapeake and Ohio Railroad is the shortest line between Cincinnati and Norfolk, between the central mart of the Ohio Valley, and the best seaport on the Atlantic. This fact will undoubtedly make it a great through line, between the east and the west.

2. There is no road in America that will go through so large, so good, and so convenient a body of coal, salt and timber, as the Chesapeake and Ohio will in the Kanawha Valley and on the mountains of Virginia. Whether these materials be manufactured on the spot or whether they be exported, they will not remain idle, and they will make business for the road. Hence, in a very few years, the road must be one of great profit, as a local road.

3. But, a very important fact to both those who are to do business on it and those who own it, is that as a trunk line, it will be built cheaper than any trunk line in the country. If this be so, it follows that the road can carry freights cheaper, and yet pay its owners better dividends than the existing lines to the east.

The following statement of the capital employed in the five great trunk lines will interest the reader and perhaps astonish him. It shows at how comparatively small a cost, one of the great (and we say of the most important) of the trunk lines to the East will be constructed:

NEW YORK TO CHICAGO.			
Line of Road.	Miles Main Line.	Capital Stock.	Interest Bearing Debt.
New York Central and Hudson.....	412	\$45,000,000	\$77,932,900
Lake Shore and Michigan Southern.....	533	35,000,000	18,225,000
	930	\$80,000,000	\$97,157,900
NEW YORK TO CHICAGO.			
Pennsylvania Central ...	355	\$27,040,000	\$21,266,132
Pittsburg, Ft. Wayne and Ohio.....	468	11,500,000	12,563,000
New Jersey R. R., (C. and A.)	95	6,250,000	850,000
	918	\$44,790,000	\$43,679,132
NEW YORK TO CINCINNATI.			
Erie Railway, (to Sal.) ..	415	\$66,302,210	\$23,398,000
Atlantic and Great Western.....	387	27,798,000	30,000,000
Cincinnati, Hamilton and Dayton.....	60	3,500,000	2,004,000
	867	\$97,500,210	\$55,402,000
BALTIMORE TO CINCINNATI.			
Baltimore and Ohio to Parkersburg.....	384	\$16,123,700	\$9,543,680
Marietta and Cincinnati.	207	11,630,365	6,206,000
	591	\$30,754,065	\$15,849,680

RICHMOND TO CINCINNATI.

Chesapeake and Ohio... 427	\$10,596,000	\$15,288,692
Cincinnati, Maysville, and Big Sandy..... 135	5,000,000	
562	\$15,596,000	

To the last line, (Chesapeake and Ohio) should be added \$10,000,000, for the road has now cost \$11,000,000 and \$10,000,000 will finish it. Then we may throw in \$5,000,000 for contingencies, small branches, side tracks, &c., &c. This will make \$30,000,000, as the total cost of a great trunk line from Cincinnati to Norfolk! Now look at the five lines as to cost:

New York to Chicago (via Central).....	\$177,157,000
New York to Chicago (via Pennsylvania).....	88,469,000
New York to Cincinnati (via Erie & Atlantic).....	152,902,210
Baltimore to Cincinnati (via Marietta).....	46,603,745
Richmond to Cincinnati (via Kanawha).....	\$30,000,000

Here we observe, that at every step we take South the less a trunk line road costs. What is the moral? what follows from this? Why plainly, that the *Chesapeake and Ohio*, and the Southern road (yet to be made) can take freights to the South a great deal cheaper, than any line now running to New York, Philadelphia and Boston. This is a momentous fact to the producers and merchants of the West. It lets them know that if they would seek channels of trade and commerce, which will insure most to their benefit, they should seek them in the natural outlets, shortest line to the Atlantic and the mildest climate. This we shall do in the Chesapeake and Ohio to the South-east, and the "Southern road" to the South. We shall endeavor hereafter to show what we think will be the grand, and at present, scarcely foreseen consequences to this Metropolitan City of the West.

General Breckinridge's Speech on the Southern Road.

We have received a sketch of Gen. BRECKINRIDGE's speech before the Railroad Committee of the Kentucky Legislature, and it is a very able and convincing argument. If to have the facts and the argument on the side of the road were sufficient, this speech is enough; and would end all opposition. But unfortunately it is not facts and arguments we have to overcome, but better, and as we think very mistaken prejudices. We think there is no more mistaken policy than for a city or town to assume that because some road or improvement is to benefit some other town, therefore it is to injure them. But so it is, this is the single and only ground of hostility shown by Louisville to the "Southern Road." Even on that ground Gen. BRECKINRIDGE's argument ought to convince anybody. In Mr. CALDWELL's argument as well as in that made in Tennessee, there was one apparently absurd and childish remark, yet it was gravely made,

and had to be gravely replied to. This was the absurd idea that a State has a right of eminent domain, and would be giving it up by granting a right of way to a railroad company. Why? Because the Trustees of the road live in Cincinnati—nothing more or less. Well, isn't the stock and bonds of half the railroads in the country owned by persons out of the State. Yet no State has refused a right of way to any railroad company on that account. In fact this objection is positively childish.

The following remarks by Gen. BRECKINRIDGE are really admirable, and prove that he has the far seeing eye of a Statesman, as well as the force and logic of a lawyer. If we could reach the ears of all Kentuckians, we would say, read, read, and judge for yourselves:

"Gentlemen, we are living at a period now when the world is progressing more rapidly than it used to do; in some respects progressing in a direction not very agreeable to many of us.

What would be the effect, let us see for a moment, if you would pass this measure in a form that relieves it of constitutional objection—what would be the effect of allowing that road to be built? Why, for more than twenty miles on each side of it the immediate effect would be to make everything spring into life, the value of property would be affected instantly—almost doubled upon many parts of the road. The taxable value of the property of the people would be increased upon some counties that now pay no revenue. I will not try now to prove what would be the increase of the value of the property of the State. Your treasury, your school fund would be relieved, and an impetus given to traffic. You are talking about emigrants, you are introducing bills to induce emigrants to come into the State. I want to see them come, and I want to see them at work on this and kindred roads. I want to see them come and settle on that road, and make the whole line of it blossom like the rose.

There is no question that, though poor now and undeveloped, the region of country through which this road is proposed to run will be the most productive, both upon the surface and within, of any portion of the Commonwealth. I trust that we will invite emigrants, not only by Legislative enactment, but that we will invite them by giving them work to do, and outlets to the world for the products of their industry. We want the right kind of emigrants; emigrants from the Scandinavian nations, from Northern Europe, emigrants of the white race; I don't mean the Pagans, from Asia.

Again, gentlemen, we hear the talk of hurting other railroads if you allow this road to be built, how hurt them? There are hardly any here in the State to be hurt. Have we the railroads we want? Why, Mr. Chairman, we have about 812 miles of railroad in the State of Kentucky. I was forty-nine years old the other day, and yet since I was a man I have chased the elk and the buffalo on the site of the present capital of the State of Iowa, which State, then a Territory, has now three times the number of miles that we have in the State of Kentucky. Hurt other roads? If we had the map lying before us, you and your attention could be called to it, you would see that this road runs through an almost untouched region of country.

The time is not far distant when not only that road will be built, but other roads tapping it in every direction. Not only the people twenty or thirty miles on each side of it will be benefited by it, but other roads will come in every direction to this road, which our sister city is projecting to Knoxville. The State will be covered all over with railroads, and ought to be. Everybody knows that wherever it is applicable, the railroad system will be the ordinary mode of transportation, both for passengers and freight, wherever it can be done. One railroad does not hurt another; one railroad benefits another; they help each other. Suppose Louisville continues her railroad in the direction of Knoxville, and crosses this trunk road, they must benefit each other.

We have now in Kentucky more railroad charters and fewer miles of railroad than any other State in the Union. Our books are all covered over with railroad charters. If one community gets a charter for a railroad another community runs to get one, too. With a view to checkmate the first, the consequence is that while we have an amount of legislation on the statute books unprecedented, we have scarcely any railroads at all."

St. Louis and Her Railroads.

[From the Missouri Republican.]

Not the least important advancement made during the past year has been in added length of the railroads centering at St. Louis, by the extension of main lines, the construction of branch feeders and forming of connections with lines traversing other States. The year, characterized by the completion of the Union Pacific road, and the connection of the Atlantic and Pacific coasts by iron bands of intercommunication, has also been noted by the practical connection of the South-eastern Atlantic cotton growing States with the food producing regions of the South-west and practically by the construction of unbroken rail communication between the Gulf of Mexico and the headwaters of the Missouri; and it is no insignificant indication of the future prosperity of St. Louis, that occupying a midway position on these great lines extending from the extreme east to the extreme west, and from the farther north to the farther south, our merchants and our citizens will share alike in the prosperity of every section of the Union. Appropriate, therefore, to a review of the commerce of our city, we give place to the following resume of the business and extent of our railroads:

THE NORTH MISSOURI.

This road, which in the future will form the most important northern feeder of St. Louis trade, has an entire length, including branches, of, in round numbers, 405 miles; 383 miles in this State, and 22 miles in Iowa. There have been 113 miles of new line of communication opened in the past year by connection with the Missouri Valley road from Harlan, opposite Kansas City, to Marysville, but the North Missouri Railroad Company has built only one mile of new track during the year, viz: from North Market street to the elevator in St. Louis. The track of the West Branch of the road was completed to Kansas City at the close of the year 1868, but not operated its whole length, 126 miles, until the present year.

Nothing remains of the North Missouri Railroad to be completed. In Iowa 20 miles remain to complete the Cedar Rapids road to Ottumwa, effecting connection there with the

Des Moines Valley Railroad, the Burlington and Missouri River Railroad and other projected lines. Also (in Missouri and Iowa) the St. Louis, Chillicothe and Omaha Railroad about 209 miles, forming a direct route from St. Louis to Omaha. The Chillicothe and Des Moines road is being graded, and at Chillicothe will connect with the St. Louis, Chillicothe and Omaha road, and also with the Hannibal and St. Joseph Railroad. The Louisiana and Missouri River road is being graded, and will strike the North Missouri road at Mexico. Some work is being done between Salisbury (a station on the West Branch) and Glasgow, and this road when completed to Glasgow will be a feeder to the North Missouri road. The St. Louis and St. Joseph Railroad, which crosses the North Missouri Railroad near Lexington, on the north side of the river, is fast being constructed, and will soon be completed. The Hannibal and Moberly road is also being graded, and assurances are given that it will be completed within a year.

The relation of this road to the grain interests of St. Louis is shown by the fact that there have been built during the year, on the line of the railroad, twelve warehouses and elevators, and there will doubtless be many more erected during the coming year. The amount of grain transported over the North Missouri Railroad to St. Louis during the year, was 829,245 bushels in sacks, and 296,200 bushels in bulk.

There were transported, during the year, over the road to St. Louis, 38,574 head of cattle, 4,842 of which were Texas cattle; 42,988 sheep, and 3,130 horses and mules.

The total freight carried over the road during the year 1869, inclusive of the foregoing, amounts to 132,298,144 pounds, against 69,503,275 pounds during 1868. The total number of passengers carried during the year, was 403,608, against 252,008 in 1868. The estimated receipts of the company for freight and passengers traffic for the year 1869 show an increase of about 60 per cent. over 1868.

ST. LOUIS AND IRON MOUNTAIN RAILROAD.

Under the excellent management of Thos. Allen, Esq., of this city, who became the purchaser of the old road between St. Louis and Pilot Knob, a distance of 86½ miles from the city, this important road has been pushed to a successful completion at Belmont, Missouri, opposite Columbus, Kentucky. Mr. Allen became the purchaser of the road in January, 1867, and completed its extension of 120 miles to Belmont so as to open it for business throughout its entire length on the 19th of August last, at a cost of about five millions of dollars. But for the interference of the State Executive in January, 1868, the road would have been opened for business some six months sooner. As it is, however, we have the road in time for the winter business of our shippers. The total length of the main line from St. Louis is:

	Miles.
Belmont.....	195
Potosi Branch.....	4
Pilot Knob Branch.....	11

Total length main line and Branch 210

The road has earned during the year 1869 about \$900,000, a very flattering exhibit, considering that it has been opened through its entire length but little over four months.

The quantity of iron ore transported over this road from Pilot Knob and Iron Mountain is steadily increasing. During 1869 there was transported over the road from these vast

deposits of iron ore the following amounts: Iron ore, 155,000 tons; pig iron, 32,000 tons. The extension of the road is opening up some fine beds of hematite ore, and developing new lead diggings, running, as it does, through some six miles of the famous lead tract known as Mine La Motte, and its opening has infused new life into these mines, as well as into the whole country traversed. About fifteen new saw mills have been erected on and near the line of the road, which will afford to our cabinet manufacturers and others large quantities of oak, poplar, walnut and cypress from the almost inexhaustible forests in the flats of South-east Minnesota.

The entire road is laid with the five feet, or Southern gauge, to facilitate transportation over connecting roads. These connections at present are made through the Mobile and Ohio Railroad, that terminates at Columbus, Ky., the cars being ferried over the river between Belmont and Columbus on a boat built for that purpose, and without breaking bulk. The distances from St. Louis by the Iron Mountain road, by rail, over roads now in operation, are as follows:

	Miles.
To New Orleans.....	723
To Mobile.....	667
To Savannah.....	960
To Charleston.....	970
To Richmond.....	1,095
To Norfolk.....	1,175
To Washington City.....	1,150
To Nashville.....	376
To Memphis.....	345
To Atlanta, Ga.....	663

These distances to the seaboard cities of the South compare favorably with distances to more northern ports by the older traveled rail routes, as will be seen by the following rail distances from St. Louis to—

	Miles.
Baltimore.....	929
Philadelphia.....	1,007
New York.....	1,074
Boston.....	1,225
Washington City.....	969

It should be added, in this connection, that lines now being constructed in the Southern States will reduce the distance by the Iron Mountain Railroad from St. Louis to Southern ports over 100 miles, and that the whole route is exempt from dangers of frost and blockades from snow.

Thus far we have only considered the connections of this important road with the lower river and the railroads east of the Mississippi River. But there are connections west of the Mississippi and new lines yet to be built, projected, and of no less importance to St. Louis. The lines projected are the following: Cape Girardeau Branch, 16 miles long, now under contract for construction, intersecting the Iron Mountain road about 148 miles from St. Louis. By this branch the ore of the Iron Mountain will be carried to Cape Girardeau on a rail distance of 92 miles. Second: A road down the west bank of the Mississippi River to Memphis. This line will leave the constructed road at the town of Morley, about 160 miles from St. Louis, and will be 140 miles in length, making the distance from St. Louis to Hopefield, on the west bank of the river, opposite Memphis, 300 miles, or 45 miles shorter than the present line, via Columbus and Humboldt. This line will be easy to construct, and cheap to operate, being practically straight line and level grades the whole distance. In fact, it can be made in connection with the Iron Mountain road,

to carry freights between St. Louis and Memphis at average river rates, and pay a fine dividend on its cost of construction and equipment. Mr. Allen had nearly perfected a plan for building this line when the late gold bubble burst in New York. It is the intention to so construct this line to Memphis as to make the road useful as a levee, and thus reclaim over a million acres of land subject to overflow of the Mississippi in the high floods. A large portion of this land will be subscribed to the road, and, as the building of the road will reclaim it, the road will in a short time develop a large local business, proving not only a useful line to the commercial interests of St. Louis with the South, but a great gain to Arkansas, by reclaiming over a million of acres of fertile land now a waste.

Looking a few years to the future, there is another projected line more desirable to be controlled in the interests of St. Louis than any other connection of the St. Louis and Iron Mountain Railroad—the Cairo and Fulton Railroad, of Arkansas. This line starts from the boundary line between the States of Missouri and Arkansas, about seven miles west of Chalk Bluffs, and pursues a very generally direct course to Fulton, on Red River, and thence to the boundary line between Arkansas and Texas, where it will connect with the railroads of the latter State. The distance on the line through Arkansas is 301 miles. The connection with this line would be best made by building a line from the town of Marquand to the State line, a distance of 74 miles. The route would pass by the old Indian ford, thence through Butler County.

Distances on this line are as follows:

	Miles.
St. Louis to Marquand.....	118
Marquand to State Line.....	74
State line to Texas boundary.....	301

St. Louis to Texas boundary.....493

The construction of this line in the interests of St. Louis would give our city a controlling influence in the railroads of Arkansas. It should be added that this line has a munificent donation of lands from the general Government, which, with proper management, would nearly if not quite build the entire line. Let St. Louis grasp this trunk line of Arkansas through the Iron Mountain road before it is too late.

Through the old Cairo and Fulton Railroad of Missouri, connection is given with Cairo. The Iron Mountain road crosses this old line in the town of Charleston, 178 miles from St. Louis; thence to Cairo is about ten miles. The old Cairo and Fulton road was abandoned during the war, and has not yet been repaired; but it is the intention of the Iron Mountain Railroad Company to place this ten miles in running order, to give St. Louis a direct connection with Cairo.

MISSOURI PACIFIC.

This road, of great importance to St. Louis, has been so long in operation throughout its entire length, that it would be mere repetition to give extended notice of its connections beyond the State, destined ultimately to give St. Louis direct communication with Colorado on the west, and Indian Territory and Texas on the south; yet though less spoken of than others, this road has developed new interests in Missouri by the construction of branch feeders during the year. The most important of these is the Osage Valley and Southern Kansas road, running from Tipton to Boonville, a distance of 26 miles, which was finished in November, 1868,

but virtually placed in active operation about the commencement of 1869, and which is leased to the Pacific Company for thirty years. The Company is also constructing and has thirty years lease of the Lexington and St. Louis Railroad, from Sedalia to Lexington—a distance of 55 miles. This road will be completed and placed in active operation in August next, and, in connection with the St. Joseph and St. Louis Railroad, also in course of construction on the north side of the Missouri river, will give a new and direct line of communication with St. Joseph and points beyond. There is also in course of construction a road from Lawrence to Bergen Hill (the L. & P. H. R. R.), a distance of 58 miles, which will probably be completed before the 1st of January next. The Tebo and Neosho Railroad, to run southwest from Sedalia to Fort Scott, a distance of 103 miles, will probably be commenced during the present year.

We are without full statistics of the freight and passenger business of the Pacific road; but owing to the change of gauge during the year, and consequent difficulty in obtaining cars, it is estimated there has been no material increase. In common, however, with the North Missouri Railroad, the Pacific has accommodated itself to the changed methods of handling grain, and has induced the erection of elevators at one or more points on its line, and has projected others to be constructed during the coming year. The amount of bulk grain transported last year over this line, from points west of St. Louis, was 843 cars, or in round figures 280,000 bushels. During the year there was also brought to the city 4,800 cars of cattle, of which 675 were Texan.

SOUTHWEST PACIFIC.

This road, which is destined within the near future to become a most important feeder to St. Louis commerce, has been pushed vigorously forward during the past year. Within that time the road has been extended, and placed in active operation from "Little Piney," twelve miles beyond Rolla, Phelps county, to Lebanon, a distance of 58½ miles, and there has been graded a further distance of 59 miles from Lebanon to Springfield, which will be ironed and in running order by the 1st of April. The road is also being rapidly graded beyond Springfield, and will be opened to a point within 41 miles of the State line, before the 1st of July. This latter extension will bring the vast lead deposits of "Granby" within ready communication of St. Louis. We have no statistics of the passenger or freight business of the road for the past year, but are informed by its officers that the former has doubled and the latter has been increased fully fifty per cent.

THE RAILROADS EAST OF THE MISSISSIPPI.

Turning to the eastern side of the Mississippi river, we find similar proof of progress in the desire for connection with and a share in the commerce of St. Louis. But a few years since there was only one railroad terminating opposite our city, and communication in other directions inland from the Mississippi were made by stage, and produce grown one hundred miles eastward of St. Louis either sought other markets or was brought here at great expense of time and labor. Now there are five distinct roads centering there, to which have been added by leases new connections, etc. In order to give a correct idea of the magnitude of these connections and those contemplated, we give the following resume of the roads now completed,

and those projected as Eastern connections, and which within two years—when the bridge is completed—will run trains directly into this city.

Chicago and Alton Railroad, 281 miles of main line, with the Jacksonville division of 150 miles additional, from Bloomington to Monticello Junction, operated under a perpetual lease; also an extension of the Jacksonville division, from Hopedale to Dwight, by way of Lacon, a distance of 112 miles, in course of construction, thus giving the Chicago and Alton Railroad a total length of about 550 miles. This road, as mentioned elsewhere, has not only lengthened its line and projected still further extensions, to be completed during the present year, but has within the same period constructed approaches to the river on either side, and now crosses its cars with freight in bulk, delivering grain at the elevator, merchandise in the package warehouse, and forwarding cattle without transhipment.

The Illinois Central Railroad may now be considered a St. Louis Railroad, having effected direct connections with the city during the past year by means of the St. Louis, Terre Haute and Vandalia Railroad, over which it runs freight direct from St. Louis to Chicago, Cairo and Dubuque, without breaking bulk or changing cars. This road has a length of seven hundred and eight miles in Illinois, and in Iowa has leased in perpetuity the Dubuque and Sioux City Railroad to Waterloo, one hundred miles; the Iowa Falls and Sioux City Railroad, 191 miles; the Iowa Falls and Minnesota Valley Railroad to Austin, Minnesota, about 70 miles, and has placed in operation the past year from Dubuque to Fort Dodge, 193 miles, and from Waterloo to St. Augurs, on the Minnesota State line, 66 miles, thus opening to our commerce the rich and fertile country of upper Iowa and lower Minnesota.

The St. Louis, Vandalia and Terre Haute road is an entirely new line, of 163 miles in length which will eventually form an important link in our Eastern connections. It has been completed within the last year to Effingham, the county-seat of Effingham county, Illinois, 90 miles from St. Louis, forming at that point a junction with the Illinois Central Railroad. From Effingham eastward the grading is being pushed forward with considerable rapidity, and it is expected that the entire line will be completed to Terra Haute and in running order by July 1st of the present year. Ohio & Mississippi Railroad to Cincinnati, 340 miles. During the past year the Louisville division from North Vernon to Louisville, 40 miles, has been completed and trains are now run direct from St. Louis to Louisville without change of cars, thus giving a new and important through Southern connection.

Belleville and Illinoistown Railroad, 14 miles, with a projected extension southward and south-eastward of over one hundred miles, called the Belleville and Southern Illinois Railroad, now finished to Athens, 16 miles from Belleville, and rapidly completed toward Du Quoin, Ill., which point it is expected to reach by June next, thus giving a new connection to Cairo, Columbus, Ky., and the South generally. This line will be 35 miles shorter than the Iron Mountain Railroad, but will lack the facility of unbroken gauge with roads south of the Ohio river, and consequent direct transfer of cars.

Cairo and East St. Louis Railroad organized and construction expected to be commenced in the interests of the Chicago and Alton Railroad early in 1870, and pushed to completion,

about 145 miles. This road will pass through a country rich in farming and mining products, and beside, as forming a short and direct connection with Cairo, will be of great importance to St. Louis.

Indianapolis and St. Louis Railroad: From St. Louis to Terra Haute, 186 miles. This is the old Terra Haute and Alton road under its new name as leased to a company with above title. This company is now engaged in building a road from Terra Haute to Indianapolis (75 miles), hence its name. It is expected that this new line will be completed by July next.

Decatur and East St. Louis Railroad: In course of construction from Decatur southward, connecting at the last named city with the Toledo, Wabash and Western Railroad.

Depot grounds have been purchased at East St. Louis, and the road is being pushed rapidly toward completion. Distance from Decatur to St. Louis about 130 miles. Some twenty miles of the iron is already laid, and judging from the energy with which the work has been pushed hitherto, but few months will elapse before the line is ready for business.

Peoria, Pekin and Jacksonville Railroad: This road intersects St. Louis in the fact that it opens up Pekin, Peoria and the Illinois river towns to St. Louis by the way of the Jacksonville division of the Chicago and Alton Railroad. Length of line from Peoria to Jacksonville, 83 miles.

Rockford, Rock Island and St. Louis Railroad: This road is finished and cars running over the line from Rockford to Rock Island. From Rock Island towards St. Louis, several sections of several miles each are completed, and in one or two instances, cars are running over these isolated sections. It is now expected that this line will be through to St. Louis by January, 1871, and will be of vast importance to St. Louis, as it will then open up a new route to the upper Mississippi river country, as well as to the Lake at Racine, Wis.

Something New in Locomotives.

In our number for April 2, 1869, under the heading of "Higher and Higher," we stated as follows:

"Mr. Thomas Harrison, one of the concessionaires, of the Cerro de Pasco Railway of South America, has lately visited England. His line will have a summit 14,200 feet above the sea, or nearly the elevation of Mont Blanc. Approaching from the sea in the direction of the line there are 36 miles of road through and over mountains and precipices, and along which only mules can travel. How are locomotives to be carried over this road? Everything, it would seem, should be carried in pieces, the boiler separated from the fire-box, the tubes in a bagot by themselves, etc. Some clever scheming will be required.

The solution of this problem was intrusted to Messrs. Manning, Wardle & Co., of the Boyne Engine works, Leeds, whose reputation as designers and builders of light locomotives for special purposes is well known. The line is 3 feet 6 inches in gauge, and is laid with flange rails of 45 lbs. per yard; the radius of the sharpest curve is 800 feet, the steepest incline is 1 in 37, and the greatest gross load about 80 tons, so that the duty to be performed by the engines was not so exceptional as the difficulty of transporting them some 70 miles (not 36 as above) upon the backs of mules over the Cordilleras of the Andes Mountains. The maximum weight allowed for any one piece or package was 300 lbs., and no objec

was to exceed 7 feet in length. The engines have outside cylinders 12 inches in diameter, and are carried upon six wrought iron coupled wheels with steel tyres; the tanks are of the "saddle" form, resting upon the boiler barrels.

As we expected, some "clever scheming" has been required to conform to the stipulated weights. Of course, the boilers, tanks, frames, and wheels, and in fact all heavy parts, go out in pieces; for instance, the cylinders and steam-chests, usually cast in one, are in this case made in five pieces, the frames are made in sections, and the wheels, tyres, and axles are all separate. Messrs. Manning, Wardle & Co. have also constructed a fixed workshop engine and boiler, together with a wheel lathe, drilling machine, lathes, blowing-fan, and smiths' hearths and tools. In this case the maximum weight allowed was only 150 lbs. for each package. This necessitated the fast headstock of the wheel lathe, being made in no less than fourteen pieces, and yet they are so contrived that an ordinary observer would not notice any thing special about it. A staff of boiler-makers and fitters in charge of a leading erector have been engaged to go out to Peru to erect the engines on their arrival. So far as we know, these are the first locomotive engines which have been sent out from this country in such small pieces. They have been entirely designed and built by Messrs. Manning, Wardle & Co., and have given every satisfaction to Mr. Edward Woods, the consulting engineer to the Cerro de Pasco Railway.—*Engineering.*

THE MIDLAND (N. Y.) RAILROAD—It has long been a matter of surprise to all persons examining the map of New York State, that the very large section of country embraced in the irregular triangle, formed by the Hudson River on the east, the New York Central Railroad on the north, and the Erie Railway and its connections on the southwest, has been quite destitute of railroad facilities. This portion of the State includes, too, a very rich agricultural district, with numerous large towns in the several counties of Madison, Chenango, Delaware, Sullivan and Orange. The Albany and Susquehanna Railroad from Binghamton to the city of Albany, did something to open that portion of the district referred to which is adjacent to its route, but still this did not supply the great desideratum of a connection with New York city, and only at the present time, in the building of the New York and Oswego Midland Railroad, has this rich and populous interior section of our State been opened up to a direct line of communication with New York city. A local traffic is a safe and reliable basis upon which to estimate the earnings of a railroad; it is perfectly sure throughout every season, good or bad, with comparatively little variation. Many of the best roads in the country, as for instance, the Illinois Central, Chicago and Alton, Chicago, Burlington and Quincy, and even the New York Central, together with numerous others, have been greatly indebted to their local traffic for their wonderful prosperity.

The road in question, however, will not be dependent upon local traffic only, as it is the most direct route between the great lakes and the Port of New York, and will be a thoroughfare for the enormous inland commerce between the interior and the seaboard.—*Financial Chronicle.*

THE total bonded debt of San Francisco, June 30, 1869, was \$4,799,100, bearing interest at from 6 to 10 per cent. per annum.

The Blue Ridge Railroad.

We make the following extract from the Columbia correspondence of the Charleston News:

It will be recollected that the joint resolution from the House providing for the appointment of a committee to investigate the affairs of the Blue Ridge Railroad, was, when it came into the Senate, referred to the Railroad Committee of that body, which reported to-day, with an accompanying letter from the president of the Blue Ridge Railroad, and recommended that the Senate should not concur in the resolution, because the desired information could be obtained in the annual report of the company, which would be issued at an early day, and that if the report was unsatisfactory, the Senate could then appoint a committee. The letter is as follows:

BLUE RIDGE RAILROAD,
OFFICE CHIEF ENGINEER,
COLUMBIA, S. C., January 15, 1870.

Hon. C. P. Leslie, Chairman Senate Committee on railroads.—SIR: Having noticed in the proceedings of the General Assembly a resolution of inquiry into the affairs of the Blue Ridge Railroad Company, introduced in the House of Representatives and referred to your committee, I feel it due and proper to state that the annual report of the company to the Comptroller-General has been unavoidably delayed by unforeseen events, but it is now in process of preparation and will be submitted at the earliest practicable moment. The records of the company are at the office of the chief engineer, Colonel James P. Low, in this city, and subject to the inspection of stockholders and persons interested.

Very respectfully,
J. W. HARRISON, President.

The *Walhalla Courier* contains the annexed gratifying intelligence concerning this enterprise:

"It is now well understood that a better route can be found for this road than the old one. The new route commences near the depot, at this place, and intersects with the original line eighteen miles west of this point. By this arrangement, the Stumphouse tunnel and the two intermediate ones can be avoided. Two miles in distance can be saved by the change, and the cost of the new route over the completion of the old one is about the same. We rejoice in being able to make this statement by authority. It will destroy the prejudice engendered against this enterprise on account of the assumed impracticability of boring through the Stumphouse tunnel. Besides, we have assurances from more quarters than one, that the road will be completed at an early day. Locally, the proposed change of route will throw the track in or near town, and with it a change of depot."

RAILROADS IN KANSAS.—The miles of road now completed in Kansas, are:

Kansas Pacific.....	405 miles.
Leavenworth & Lawrence Branch.....	31 "
Central Branch Pacific.....	100 "
Missouri River road	18 "
Leavenworth & Atchison	21 "
Leavenworth, Lawrence & Galveston	56 "
Missouri River, Fort Scott & Gulf.....	100 "
Atchison, Topeka & Santa Fe.....	27 "
Southern Branch Pacific.....	80 "
St. Joseph & Denver	15 "

Total.....853

Of the above total, 275 miles have been built during the past year.

Fires During the Year 1869.

The *N. Y. Herald* publishes a list of fires that have occurred in each city and town in the United States for the year ending December 31, 1869, with a description of the property destroyed, where the losses are reported to have reached \$20,000 and upwards. The following is a recapitulation:

Losses in	Amount.	Losses in	Amount.
January....	\$3,294,000	July.....	\$1,677,000
February....	2,637,000	August.....	6,838,000
March.....	2,892,000	September.	3,242,000
April.....	4,672,000	October....	2,792,000
May.....	3,830,000	November.	2,650,000
June.....	1,690,000	December.	3,200,000

Total losses in 1869	\$40,684,000
Total losses in 1868	34,757,000
Total losses in 1867	36,905,000
Total losses in 1866	66,410,000
Total losses in 1865	43,139,000
Total losses in 1864	28,522,000
Total losses in 1863	14,060,000
Total losses in 1862	17,640,000
Total losses in 1861	18,020,000
Total losses in 1860	15,597,000
Total losses in 1859	16,058,000
Total losses in 1858	11,561,000
Total losses in 1857	15,792,000
Total losses in 1856	21,150,000

Total losses in fourteen years...\$380,299,000

The Darien Canal.

A NEW ROUTE DISCOVERED—SUPERIORITY CLAIMED FOR IT OVER ALL OTHERS—ITS ESTIMATES AND PROSPECTS.

[Correspondence of N. Y. Tribune.]

PANAMA, Jan. 17.—A most important discovery of a new and comparatively easy canal route has been made. In *The Panama Mail* of to-day is published a document giving many interesting particulars of the advantages claimed for it over all others. It appears that a company was formed in France as far back as 1860, under the title of the International Columbian Canal Society, and that Mr. Lucien de Puydt has been engaged from time to time in the attempt to make out a practicable route for a canal to be constructed under the auspices of the company. Mr. de Puydt is a French engineer of considerable repute, and for nearly the whole period, from 1860 until the present day, has been patiently engaged in the effort to solve the great problem of the whereabouts of the route which shall offer the greatest facilities for the construction of the canal. His steady perseverance has at length been rewarded by the apparent finding of what he has so long sought. The report proceeds to say:

The proposed canal has its entrance on the Atlantic side at Puerto Escondido, where vessels can anchor in a depth of from 17 to 44 fathoms. Thence the proposed canal follows the Valley of the Turgandi, and, passing behind a small hill called Tarera, continues on in the valley of the River Tanela, to the source of this river. The hollow in the chain of hills, at its highest point, is here only 46 meters above the level of the sea. The canal would here enter the valley of the Pucro (on the Pacific slope), and follow it until reaching the Tuyra, four miles above the point named Santa Maria Real, at which place it enters the river, and thus is brought three miles below the highest point reached by the tide in the River Tuyra. The canal will require 88

kilometers, or 22 leagues, of excavation. From the western entrance, at Santa Maria La Real, to the Gulf of San Miguel, by "Boca Chica," there will then remain 65 kilometers to be navigated, in a river which at present has a profundity of from 7 to 20 fathoms. The distance from ocean to ocean will thus be 153 kilometers, or 38½ leagues. The height throughout the proposed line, taking the highest and lowest points, presents an average of 11 meters 90 centimeters. The canal would be 70 meters wide at top, and at the bottom would be 50 meters—thus allowing ample room for the passage of the largest steamer yet built. Considering the diverse formations presented by the different sections of this route, which comprise, earth, clay, schist and earth, sand, lava, stones and rocks, the following figures present the maximum cost of the work, and which would be reduced materially by the employment of machinery in the excavations:

87,800 meters at \$600,000 the kilometer.....	\$52,680,000
Allowance of 10 per cent for any difficulties which may arise in excavations.....	5,320,000
Machines, tools, &c.....	800,000
Clearing the line.....	1,000,000
Expenses of general management for five years.....	1,000,000
Agencies in Colombia.....	100,000
Engineers and superintendence of the work.....	600,000
Houses, sheds, hospitals.....	800,000
Sanitary service and medicine.....	100,000
Extra provisions.....	400,000
Lamps, levees and wharfs.....	200,000
Drags.....	200,000
Ports at each extremity of the Canal.....	200,000
Telegraphs, double wire and exchanges.....	200,000
Railroads, &c.....	2,000,000
Provisions for directors, engineers, agents, instruments, &c.....	400,000
Mules.....	200,000
Ammunition, arms, mining powder	200,000
Steam and sailing vessels to bring provisions.....	400,000
Accidental expenses.....	3,000,000
Total.....	\$70,000,000

The operations to be performed may be explained as follows:

A national loan for the construction of the Canal.

The Canal constructed with the money furnished by the national loan.

The quantity of earth to be excavated in order to open the Colombian Canal is 125,000,000 cubic meters, which being divided into 20 working sections give 6,000,000 cubic meters to each section; so that if the work were to be commenced along the whole line, within a period of from three to six years the Canal would be open for navigation.

The earth to be excavated may be divided into the following proportions:

1. Earth, sand, clay, &c, 45 per cent.
2. Small stones, and stones removable by labor, 34 per cent.
3. Rocks of different formations which will require blasting, 21 per cent.

The highest point of the saddle in the chain of hills is 46 meters in height by 9,000 meters in length, and will require the removal of 31,000,600 cubic meters of earth, being equivalent to the fourth part of the whole work.

TENNESSEE RAILROADS.—The Tennessee bondholders resident at New York and Philadelphia held a meeting at the former city on Monday, at which a report of the committee appointed at a previous meeting was submitted, setting forth in substance that the debt of the State is now about \$39,000,000; that the amount issued to the railroads which the commission propose to receive from the State is about \$26,000,000; that the holders of about \$14,000,000 of bonds will surrender their bonds to the commission and will assent to the plan; that under the plan the income from the solvent roads during the next six months will purchase about \$2,000,000 of bonds additional; that the proceeds which will be received by the foreclosure of defaulting roads will also be applied to the purchase of bonds, and will purchase about \$7,000,000. It is estimated that during the year and a half that it will take to foreclose these roads the receipts from the solvent roads will buy \$3,000,000, making a total of about \$26,000,000 of bonds which will be held by the commission. This would at the expiration of a year and a half reduce the State debt to about \$13,000,000, and would leave in the hands of the commission about \$17,000,000 of first mortgage bonds on gold solvent roads, which would be the property of the bondholders who had assented to the plan. This report was accepted, and the committee authorized to appoint a sub committee of three to go to Tennessee and urge the passage of such laws as will embody this plan. The substance of the scheme is, that the commission recommended shall hold in trust for the State all its claims upon the railroads to which bonds have been issued to the extent of \$26,000,000, and in trust for the bondholders an equal amount of bonds; that when said commission shall deliver to the State the \$26,000,000 of bonds, all the claims of the State on the railroads held in trust by the commission shall be transferred to the assenting bondholders, to be divided pro rata among them.—*Ledger, Dec. 30.*

THE NEW RAILROAD TO LOUISVILLE.—A train was yesterday put on the Louisville division of the Ohio and Mississippi Railway, which will run from North Vernon to Jeffersonville on Mondays, Wednesdays and Fridays, and from Jeffersonville to North Vernon on Tuesdays, Thursdays and Saturdays, by the following table:

Dis. Miles.	Names of Stations.	Going South.	Going North.
0	North Vernon.....	7:00	12:20
6	Lovett.....	7:38	11:32
10	Comiskey.....	8:02	11:18
14	Deputy.....	8:26	10:54
20	Holman.....	9:00	10:20
25	Lexington.....	9:40	9:40
30	Marysville.....	10:10	9:10
33	Otisco.....	10:35	8:45
40	Charlestown.....	11:20	8:00
46	Watson.....	11:50	7:25
53	Jeffersonville.....	12:20	7:00

Mr. J. H. Brannan is engineer, and Mr. Nabb, conductor. The object of the train is local accommodation exclusively. Though Paris and Sherman do not appear on the time card, they may be regarded as stations, and trains will stop for flagging.—*North Vernon (Ind.) Plaindealer, Feb. 1.*

The value of real and personal property in San Francisco is \$106,414,029. The current expenses last year were \$1,937,925; interest, \$148,283—total, \$2,450,210.

The growth of Chicago during 1869 is indicated by the fact that 3,810 new buildings have been erected, and 570 added by the extension of the city limits. Add this number to those erected prior to 1869 and we have a total of 48,300 buildings (more than two thirds of which are first-class now included within the area of the city proper.

ONONDAGO SALT YIELD.—The quantity of salt inspected from the Onondaga Salt Springs, during the last fiscal year, was 8,534,661 bushels, a decrease of production, compared with the previous year, of 258,853 bushels. The revenue for the year, from all sources, was \$85,531.61; the expenses, \$46,311.59; the net revenue received by the State being \$39,220.02.

The British Post-office Department made \$23,000,000 net profit last year, while ours ran behind \$5,000,000. No franking in England. The Queen, even, who may write a letter by another hand, must put her own head on it to send it by mail.

FRUIT GROWING FOR PROFIT.

Everybody can have the benefit of 30 years experience, in my New Descriptive Catalogue of 56 pages, for 10 cents. Its tell what and how to plant.

WM. PARRY,
Cinnaminson, N. Y.

2-3, 4t

Fresh Garden, Flower, Fruit, Herb, Tree, Shrub and Evergreen Seeds, with directions for culture, prepaid by mail. The most complete and judicious assortment in the country. Agents wanted.

25 Sorts of either for \$1.00; prepaid by mail. Also Small Fruits, Plants, Bulbs, all the new potatoes, &c., prepaid by mail 4 lbs. Early Rose Potato, prepaid, for \$1.00. Conover's Colossal Asparagus, \$3 per 100; \$25 per 1000, prepaid. New hardy fragrant everblooming Japan Honeysuckle, 50 cts. each, prepaid. True Cape Cod Cranberry, for upland or lowland culture, \$1.00 per 100, prepaid, with directions. Priced Catalogue to any address, gratis; also trade list. Seeds on Commission. B. M. WATSON, Old Colony Nurseries and Seed Warehouse, Plymouth, Mass. Established in 1842. 6-1-70, 17.

Notice to Contractors.

CHESAPEAKE AND OHIO RAILROAD.

SEALED PROPOSALS will be received at the Engineer's office at Charleston, W. Va., until 12 M. March 1, 1870, for the GRADUATION, MASONRY and the SUPERSTRUCTURE OF BRIDGES on the Chesapeake and Ohio Railroad between the Falls of Kanawha and the Ohio River, including THREE MILLIONS CUBIC YARDS OF EXCAVATION, and SEVENTY THOUSAND CUBIC YARDS OF MASONRY.

Also, at the Engineer's office at Richmond, Va., until 12 M. March 10, 1870, for several heavy sections east of the Falls of Kanawha, including the unfinished work near Millboro', and that eight miles east of the White Sulphur Springs the Great Bend tunnel, 6,400 feet; Lewis tunnel, 3,800 feet; five other tunnels from 500 to 1,700 feet long; several sections in rock cutting; and about 70,000 cubic yards of masonry.

Profiles and specifications can be found at the office of the company) 54 William street, New York, on and after February 1; at Richmond, Va., and at Charleston, W. Va., on and after January 15, 1870. The company reserves the right to reject any or all the bids offered, and to make private contracts for the work.

Information as to time, etc., will be given at the letting. For further information apply to A. D. Whitcomb, Chief Engineer, Richmond, Va., or to W. A. Kuper, Principal Assistant Engineer, Charleston, West Virginia.

C. P. HUNTINGTON,
President.

27-1-70, 4.

VICK'S Floral Guide for 1870.

THE FIRST EDITION OF ONE HUNDRED AND TWENTY THOUSAND copies of **Vick's Illustrated Catalogue of Seeds and Floral Guide**, is published and ready to send out. It is elegantly printed on fine tinted paper, with about 20 fine wood Engravings of Flowers and Vegetables, and a beautiful COLORED PLATE—consisting of seven varieties of Phlox Drummondii, making a fine

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It is the most beautiful, as well as the most instructive Floral Guide published, giving plain and thorough directions for the

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Address,

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Rochester, N. Y.

39-12-9, 3

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Station D, Bible House,
NEW YORK CITY.

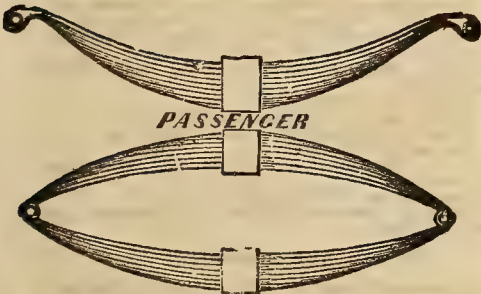
7-10-9, 13.

RAILWAY SPRINGS.

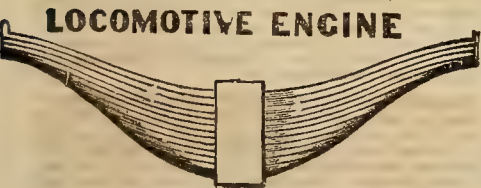
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FOR—

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PITTSBURG, HARRISBURG

Philadelphia, Baltimore,

And Principal Points in

NEW YORK, NEW ENGLAND

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This Railway extends from

CINCINNATI to NEW YORK, - 860 Miles.

CLEVELAND to NEW YORK, - 625 Miles.

DUNKIRK to NEW YORK, - 460 Miles.

BUFFALO to NEW YORK, - 423 Miles.

ROCHESTER to NEW YORK, - 385 Miles.

AND IS FROM

22 to 27 MILES the SHORTER ROUTE.

TWO EXPRESS TRAINS DAILY

Leave CINCINNATI from DEPOT, corner Fifth and Hoadley Streets, by Columbus, O., time, which is 7 minutes faster than Cin'ti time.

7.00 A. M., CINCINNATI EXPRESS,

(Sundays excepted.) Arrive Dayton 9.10 A. M.; Urbana, 10.29 A. M.; Galion, 12.57 P. M.; Mansfield, 1.40 P. M.; West Salem, 2.48 P. M. (Dine). (Sleeping Coaches through to New York); Akron, 4.21 P. M.; Ravenna, 5.05 P. M.; Meadville, 7.55 P. M. (Supper); Susquehanna, 8.10 A. M. (Breakfast); Turner's, 2.07 P. M. (Dine); New York, 4.10 P. M. Connects at Ravenna with Cleveland & Pittsburg Railroad for Hudson and Cleveland; at Elmira for Williamsport and the South; at Binghamton for Cooperstown, Albany and the celebrated summer resort, Sharon Springs, and at New York with afternoon trains and steamers for Boston and New England cities.

9.45 P. M. LIGHTNING EXPRESS,

daily. Arrives Dayton, 12.01 A. M.; Urbana, 1.26 A. M.; Galion, 4.00 A. M.; Mansfield, 4.44 A. M.; West Salem, 5.56 A. M. (Bkfst); Akron, 7.33 A. M.; Ravenna, 8.20 A. M.; Meadville, 11.16 A. M. (Dine); Hornellsville, 6.19 P. M. (Supper); New York, 7.10 A. M. Connects at Mansfield with Pittsburg, Ft. Wayne & Chicago Railway for Pittsburg, Harrisburg, Philadelphia, &c.; at Meadville with Franklin Branch for Oil City; at Elmira with Northern Central Railway for Harrisburg and the South, and at N. Y. with morning trains for Boston and N. England cities.

New and Improved Coaches of the style peculiar to the Broad Gauge, arranged for both Day and Night Travel, are attached to this train at Cincinnati and run through to New York, forming the **Only Line** running through 860 Miles without Change.

Boston and New England Passengers, with their Baggage, are transferred FREE OF CHARGE in New York.

IF The Erie Railway Company has opened a new Ferry from their Jersey City Depot to the foot of Twenty-third Street, New York, thus enabling passengers to reach the upper portion of the city without the expense and annoyance of a street car or omnibus transfer.

IF The scenery along the entire route of the Erie Railway is of the most picturesque and beautiful character. Admirers of Nature's beauties, in a day's journey over this Line, will find in its ever changing landscapes subjects of continual admiration and interest.

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W. B. SHATTUC,
General Southern Agent.

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59 Miles in Distance Saved.

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L. M. COLE, General Ticket Agent.
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Cincinnati, Hamilton & Dayton Railroad.

Trains run to and from Cincinnati as follows:

	DEPART.	ARRIVE.
Eastern Express (Erie Railway).....	7:00 A. M.	6:30 P. M.
do do do.....	9:45 P. M.	7:00 A. M.
Toledo, Detroit & Canada.....	7:15 A. M.	10:25 P. M.
do do do.....	6:30 P. M.	7:00 A. M.
Lima, Fort Wayne & Chicago.....	7:15 A. M.	10:25 P. M.
do do do.....	2:30 P. M.	5:40 P. M.
do do do.....	6:30 P. M.	7:30 A. M.
Sandusky, Cleveland & Buffalo.....	7:15 A. M.	5:40 P. M.
Springfield Accommodation.....	2:30 P. M.	10:20 A. M.
Sandusky, Cleveland & Buffalo.....	6:30 P. M.	10:20 A. M.
Muncie & Indianapolis.....	7:15 A. M.	10:25 P. M.
do do.....	5:00 P. M.	1:20 P. M.
Hamilton, Eaton & Richmond.....	7:15 A. M.	10:25 P. M.
do do.....	5:00 P. M.	10:20 A. M.
Hamilton Accommodation.....	9:30 A. M.	8:05 A. M.
do do.....	6:50 A. M.	

Trains run SEVEN MINUTES FASTER than Cincinnati time.

For all information and through tickets, please apply at the old office, south-east corner of Broadway and Front; Burnet House Office, corner Vine and Baker streets, and at the respective depots, East Front and West Sixth streets.

D. McLAREN, Gen'l Superintendent.
SAM'L STEPHENSON, Gen'l Ticket Ag't.
Omnibuses call for passengers.

JANUARY 1st, 1870.

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Change of Cars.

Ohio & Mississippi Railroad,

For St. Louis, Cairo, Louisville, Evansville, St. Joseph
Jefferson City, and all points on the Lower Mis-
sissippi River, and on the Illinois
Central Railroad.

TRAINS RUN AS FOLLOWS:

St. Louis, Evansville and Cairo	
Mail.....	7:15 A. M. 10:55 P. M.
Overland Accommodation.....	3:10 P. M. 8:45 A. M.
Through Western Express.....	5:10 P. M. 8:30 P. M.
Night Express.....	10:20 P. M. 6:00 A. M.

The 5:10 P. M. train runs daily. Trains run by Vin-
centines time, 12 minutes slower than Cin'ti time.

For tickets or information apply at Offices, 132 Vin-
Street, Corner Front and Broadway; and at Depot, Foot
Mill Street.

E. G. BONDURANT, Superintendent, Cin. O.
C. E. FOLLET, Gen'l Ticket Ag't, St. Louis, Mo.

Best Route to St. Louis and Chicago

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CINCINNATI
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ST. LOUIS,
CAIRO,
CHICAGO,

Memphis, New Orleans, Springfield, Quincy
Keokuk, St. Joseph, Des Moines, Omaha

And all Rail and River Towns and Cities in the West,
North west and South-west.

The 7:35 A. M. train runs daily.

ON AND AFTER SUNDAY, DEC. 5TH, 1869, TRAINS
WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail.....	7:30 am	12:40 am
St. Louis and Springfield Express.....	2:40 pm	7:35 am
*St. Louis and Springfield Express.....	10:20 pm	3:42 pm
Lawrenceburg Accommodation.....	10:10 am	2:35 pm
Lawrenceburg Accommodation.....	4:70 pm	8:25 am

*The 10:20 pm. train will leave Sundays, but not on Sat-
urdays.

VIA WHITEWATER VALLEY DIVISION.

Chicago Mail.....	7:00 am	10:15 am
Chicago Express.....	6:50 pm	9:30 pm
Harrison Accommodation.....	5:30 pm	7:10 am

Through Tickets can be obtained at the Burnet House
Office, corner of Third and Vine; River Office, corner of
Walnut Street and River; and at Depot, corner of Plum
and Pearl streets. The splendid Passenger Depot of the
I. & C. Railroad is about a mile nearer the business center
of the city than the Depot of any other railroad, and with-
in a few squares of the Postoffice and principal hotels and
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J. F. RICHARDSON, Superintendent.
A. E. CLARK, General Ticket Agent.

Philadelphia, Wilm'gton & Baltimore
RAILROAD!



FOUR PASSENGER TRAINS DAILY

TRAINS LEAVE PHILADELPHIA for the SOUTH DAILY

1:15 (Express Monday excepted), 8:15 A. M.; 11:45 A. M.
(Express); 2:30 P. M.; 11:30 P. M. night.
On Sundays, 4:30 A. M.; 11:30 P. M.

Leave Baltimore for North and West 7:35 A. M.; 9:20
A. M. (Express); 1:10 P. M. (Express); 6:35 P. M.; 8:2
P. M. (Express)

SUNDAY TRAINS.—Leave Philadelphia for Baltimore
and Washington at 4:15 A. M. and 11:00 P. M. Leave at
timings for Philadelphia at 8:25 P. M.

Leave Philadelphia for Wilmington at 11:30 P. M. Leave
Wilmington for Philadelphia at 8:30 P. M.

The Old And Reliable Route.



Through to Pittsburg without Change.

The PITTSBURG, FORT WAYNE & CHICAGO RAIL-
ROAD, in connection with the Cincinnati, Hamilton &
Dayton, and Little Miami Railroads, still continue to trans-
port produce and merchandise between Cincinnati and
Pittsburg, Philadelphia, Baltimore, New York or Boston,
and all Eastern points with the greatest promptitude and
dispatch.

For Rates, Bills of Lading, or any information desired,
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No. 27 West Third Street, Cincinnati.

W. P. SHINN, General Freight Agent,
[Pittsburg, Pa.]

LOUISVILLE & CINCINNATI
SHORT-LINE RAILROAD.

Time only 5 hours

Fare Only \$3.50—Transfer from Hotel or
Residence to Depot, in Covington, Free.

THE SHORTEST ALL-RAIL ROUTE TO
Louisville, Nashville, Memphis, New
Orleans, and all points South.

Trains leave Cincinnati as follows:

	LEAVES.	ARRIVES.
Morning Mail.....	7:35 A. M.	2:30 P. M.
Evening Express.....	7:15 P. M.	3:45 P. M.
Night Express.....	11:15 P. M.	5:00 A. M.
Walton Accommodation.....	4:00 P. M.	9:35 A. M.

The 7:35 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on
the Walton Accommodation, offer great inducements to the
citizens of Cincinnati and Covington who wish to pur-
chase country residences or small farms for gardening.
This train leaves late in the afternoon, and arrives early
next morning, giving all day to attend to business. For
further information as to routes, low fare, &c., please apply
at No. 1 Burnet House, or Depot, Covington, Ky.

SAM'L GILL, Gen'l Sup't. Louisville.

CENTRAL R. R. OF NEW-JERSEY.

Passenger and Freight Depot in New York, foot of Lib-
erty st., connects at Hampton Junction with the Dela-
ware, Lackawanna, and Western Railroad, and at Easton
with the Lehigh Valley Railroad, and its connections,
forming a direct line to Pittsburg and the West, without
change of cars.

ALLENTOWN LINE TO THE WEST.

Sixty miles and three hours saved by this line to Chicago,
Cincinnati, St. Louis, etc., with but one change of cars.
Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as
follows:

6:55 a. m.—For Easton, Bethlehem, Mauch Chunk,
Williamsport, Wilkesbarre, Mahoney City, Tuckhannock,
&c.

7:15 a. m.—For Somerville.

8:30 a. m.—For Flemington, Junction, Stroudsburg,
Water Gap, Scranton, Kingston, Pittsburg, Great Bend, &c.
12 m.—For Flemington, Easton, Allentown, Mauch
Chunk, Wilkesbarre, Reading, Columbia, Lancaster,
Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.

3:30 p. m.—For Easton, Allentown, Mauch Chunk
and Belvidere.

4:30 p. m.—For Somerville.

5:25 p. m.—For Somerville and Flemington.

6 p. m.—For Easton and intermediate stations.

7 p. m.—For Somerville.

7:20 p. m.—EMIGRANT—Stopping only at the princi-
pal stations.

9:00 p. m.—For Plainfield.

11:50 p. m.—For Plainfield, on Wednesdays and
Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,) for
Easton, Allentown, Harrisburg, and the West without
change of cars to Cincinnati or Chicago, and but one
change to St. Louis. Connects at Harrisburg for Erie and
the Oil Regions. Connects at Junction for Stroudsburg,
Water Gap, Scranton, &c. Connects at Phillipsburg for
Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Satur-
days), for Easton, Bethlehem, Allentown, Reading, Harris-
burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars
to Pittsburg and Chicago. Connects at Junction with
Delaware, Lackawanna and Western Railroad for all sta-
tions to Scranton. This train will be run to Easton on
Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,
Allentown, Reading, Harrisburg, Pittsburg, and the West
—connects at Harrisburg with train for Williamsport, Erie,
&c.

Sleeping cars through from Jersey City to Pittsburg
every evening.

Trains leave for Elizabeth at 5:45, 6:30, 6:55, 7:15
8:15, 8:30, 9, 9:20, 10:30, 11:40 a. m.—12 m., 1:00, 2:00
3:00, 3:30, 3:45, 4:15, 4:30, 4:45, 5:10, 5:25, 5:45, 6:00, 6:25,
7:00, 7:20, 7:40, 8:00, 9:00, 9:40 10:45, 11:50 p. m.

Tickets for the West can be obtained at the office of the
Central Railroad of New Jersey, foot of Liberty st., N. Y.;
at No. 1 Astor House; Nos. 254, 271, 526 Broadway; at
No. 10 Greenwich st., and at the principal hotels.

R. E. RICKER, Superintendent.

H. F. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON, - - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, FEBRUARY 10, 1870

The Railroad Record,

PUBLISHED EVERY THURSDAY MORNING,

By Wrightson & Co.,

OFFICE—No. 167 Walnut Street.

SUBSCRIPTIONS—\$3 per annum in advance.

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WRIGHTSON & CO., Propr's.

The Southern Railway.

We have said so much on this subject that there is no new point to present, yet we can not forbear saying a few last words. And, first of all, we can not forbear asking that question which every body asks and nobody can answer, *why* should not the Kentucky Legislature grant the right of way? We have seen two or three attempts to answer it by the Representatives of Louisville, but they have been silenced and put to shame by the very able and intelligent speech of Gen. BRECKINRIDGE. For example, to talk about the right of eminent domain, when the whole road lies in Kentucky, and she can seize the road if she pleases, is eminent nonsense, which a lawyer and a man of sense ought not to utter. Gen. BRECKINRIDGE showed, as any lawyer knows, that in getting a right of way through Kentucky this road can have no other powers or rights than other railroads have. To say that this road by having a simple right of way can get rid of its obligations and liabilities to the laws of Kentucky, is, we say, simple nonsense. The real truth is, that if the Kentucky Legislature grants the charter of the Southern Railroad they do not one particle more than they do for other railroads. Suppose that some Eastern capitalists should buy the Kentucky Central Railroad, and continue it to Tennessee, what could the Kentucky Legislature do to prevent it, and what difference would it make in the result? Cincinnati would have a Southern road and have it under the laws of Kentucky. Would it not have the same relation to Louisville. So all the ob-

jections derived from the idea of peculiar privileges vanish into the air. The naked truth is plain to see. The ostrich does not hide himself by putting his head under his wings. The fact is, the opposition made by Louisville to the "Southern Road" does not arise from the manner of making it, nor even from the possibility that there may be such a road, running in a degree to the benefit of Cincinnati. Five trustees making a railroad are neither better or worse managers than thirteen directors, nor are they any better or worse for living in Cincinnati. Nor is it at all doubtful that at some time there will be a "Southern Road" through Kentucky to the Southern States. But the point which Louisville really makes is this, to *delay* a Southern Road from Cincinnati for several years, and then *delay* the prosperity of this city and endeavor to cut off her Southern trade. If the "Southern Road" from Cincinnati can be prevented for ten years, then we confess frankly, that in our opinion she will not grow as fast as she otherwise would.

Now we wish to ask every honest Kentuckian whether *that* is a motive they would like to own and go into history with? Is it? So far is it from the fact *that it is not owned?* The Representatives of Louisville are ashamed to own it before the people of Kentucky. Hence, we have this pretense of giving new privileges to Cincinnati, through her Trustees of dangers for these exclusive privileges, and stuff of this sort, which there is not one man in the Legislature believes—not one. It is exceedingly flat in argument, but exceedingly funny in human nature, to see rival interests (or supposed rival interests; for, we have never admitted that Louisville would be injured a copper) thus set up legal shadows, straw men, in place of the real fact and the real men, when the truth is obvious to all. But there is another question, is Kentucky to be sacrificed to an imaginary interest of a small locality? That is the real question. What is the interest of Kentucky? And will a Kentucky Legislature sacrifice the whole interests of Kentucky to this miserable dog in the manger policy. Will they? We shall not believe it till we see it. We shall now give the reasons in brief why the whole Kentucky Legislature, even the members from Louisville, should forward the "Southern Road" with all possible energy. We shall give them, as if every man of the Kentucky Legislature was a frank, patriotic, honest, honorable man.

1. Unless it can be shown that a charter for a railroad or any beneficial public enterprise will be of positive injury, it ought to be granted, because if such enterprises are carried on they are beneficial to the community. They distribute money, men and labor—invite immigrants—build up towns, and increase the general welfare. We say then, as a general proposition, that all railroad charters should

be granted, and such has been the policy of Kentucky; for Gen. BRECKINRIDGE well said, that no State in the country had so many railroad charters as Kentucky.

Can the Legislature set up, at this time of day, the doctrine, that beneficial as railroads are—free as it has been with charters, yet it will not grant a charter because it is more beneficial to Kenton and Campbell counties and twenty-eight others, than it is to Jefferson county! Yet that is precisely the only reason. If it benefits Cincinnati, it benefits Covington and Newport more in proportion. If the charter be refused, it will be substantially because it benefits these cities more than Louisville!

2. Looking to the interests of Kentucky as a state, it is perfectly demonstrable, that two-thirds of the whole State will be directly or indirectly benefited by the "Southern Road," if made. The entire east and middle portion of the State will be benefited by it. Even where a county (say in the south-east) was a good way from the road; nevertheless, it will be much nearer and better to reach Cincinnati, or Louisville by that road than it will be by any other route. This will include full half the State. Then when the road gets down on the Cumberland, in the direction of Chattanooga, there will be a dozen counties to the west and south of this road who will find the "Southern Road" by far the best route to the East. In fine, from the south-western part of Kentucky, no road can be so direct and good a road to the East, as the "Southern Road" when made.

Possibly, if we were to go into a close examination of the matter it could be shown, that the "Southern Road," when made, will directly benefit more than two-thirds of Kentucky.

Now, it seems absurd to ask, but it must be asked in this case, will the Legislature of Kentucky sacrifice the interests of more than two-thirds of the State, to a most absurd and unreasonable jealousy on the part of Louisville towards Cincinnati? Such a question to fair-minded patriotic men seems most absurd. Nevertheless, to do precisely that is what is asked of them, and it is hoped to excite their fears and arouse their jealousy, so that they will literally "cut their nose off to spite their face."

3 And now let us say something which ought to excite a profound interest in the Kentucky Legislature. If Louisville succeeds in defeating the "Southern Road" she will, undoubtedly succeed in defeating a favorite scheme and a beneficial enterprise of Cincinnati. But she will not succeed in defeating the main object, which she dreads. She will not succeed in cutting off Cincinnati entirely from the Southern trade. Circumstances have greatly changed in the last year. It is now certain that the Chesapeake & Ohio Railroad will be made, and that Cincinnati will

be directly connected with Norfolk, Va., by a great trunk line. What will be the effect of that? Why Cincinnati will be directly connected with the greatest and best harbor on the South Atlantic, and will, in spite of anything, have the whole western trade of Virginia, North and South Carolina. For there are good lines of railroads from Central Virginia to all the cities and parts of the Carolinas. If Louisville can drive the Kentucky Legislature into suicide, for it will be very nearly that, she will cut off Cincinnati, (partially at least) from Georgia and Alabama, but she will do no more. Cincinnati will have the direct and profitable trade with the Southern Atlantic, and will be the sole western market and depot for that country. Had not Kentucky best calculate that problem before she rejects the "Southern Road?" Look on this.

Rockport Railroad.

The Board of Trade has appointed Messrs Josiah Kirby, S. L. Campbell, W. H. Harrison and George F. Bouve a committee on behalf of that body to confer with the citizens of Rockport, Indiana, and representatives of the Northern Central Railroad, at Rockport next Monday, in regard to the proposed railroad from Rockport to Loogootee, to connect the Ohio & Mississippi and Owensboro & Russellville Railroads. After the Rockport conference the committee will proceed to Owensboro to meet representatives of the Owensboro & Russellville road.—*Cin. Chronicle*.

If this proposed road is located upon the best and shortest route to Cincinnati, it would be a valuable Cincinnati route to the Green river country, but if it is the intention to construct the road through Loogootee north to intersect the Indianapolis & Vincennes road, thus carrying the trade away from Cincinnati, what interest has Cincinnati in the project?

If built with the Ohio & Mississippi gauge to a point about ten miles east of Loogootee, it would run through a rich mineral country, and save the crossing of several expensive bridges, with less distance from Cincinnati to Rockport, than to go around by Loogootee—then Cincinnati would be interested in its completion.

Cincinnati Southern Railway.

There is every reason to believe that the charter for this road will be granted. As the time approaches for the final struggle in the Kentucky Legislature, the friends of the measure increase in numbers, and the eminent selfishness of Louisville becomes more apparent. A failure to pass this Act would rouse a storm of indignation throughout Kentucky, that would be hard to allay, for the arguments of Gen. BRECKENRIDGE for and Mr. CALDWELL against, have had a very general circulation, and the people are quite willing that Cincinnati shall spend ten millions for their benefit.

The Supreme Court Decision on the Legal Tender Act.

The recent decision of the Supreme Court of the United States on the effect and working of the Legal Tender Act is one of the most important and will ramify more extensively than any decision ever made by that Court. States, corporations, individuals—all who have outstanding engagements unadjusted, which were contracted before the enactment of that law, are affected by it; hundreds of millions of dollars of State bonds, corporation bonds, mortgages, &c, which, before this decision were considered as adjusted, are now to be settled by the new rule, and this disturbance of existing relations may operate to work hardship in many quarters. The question is, has the Court looked with sufficient care to the true constitutional rule, which underlies this case. The frailty of human judgment is made manifest by this decision. The Court stood four in favor and three against, which will leave the verdict of the country in a questionable position as to the final result, and will doubtless precipitate a profound if not a violent discussion as to its justice and validity, owing to the vast interests which are to be affected by it.

The Court lacks two members to fill the bench, and a third if the Wilson bill passes. This transfers the responsibility of this decision from the Court to the President and the Senate, and their action will be looked for with intense interest. It is too soon to speculate yet as to how that decision will be made. We may be permitted, however, to admonish the appointing power to beware of sinister influences—not to lose sight of the Dred Scott decision.

AMERICAN RAILWAY EXCHANGE, of Philadelphia, have done us the honor to send us a complimentary ticket of membership to their organization. They propose in the accompanying circular to do a great many things; indeed, as the auctioneers usually say, too numerous to mention. They are all, however, intended for the "benefit of the craft," and we doubt not some good will result from their efforts. If we go to Philadelphia we will not fail to call on the American Railway Exchange, at the Continental Hotel, and recommend our friends to "go and do likewise."

By a polite note received from Gov. Bullock, of Georgia, we learn that Hon. Foster Blodgett has been appointed Superintendent of the Western and Atlantic Railroad, in place of Col. Hulburt. Col. Blodgett is a gentleman well known, and of fine business qualifications, and we trust the road will not be the loser by the retiring of its late able manager. Col. A. L. Harris is appointed Master of Transportation.

Boston, Hartford and Erie Railroad.

The examination of the Boston, Hartford and Erie Railroad made by the State Director and submitted to the Massachusetts Legislature last week, showed that but 100 miles remain to be finished to open the 225 miles of railroad between the Hudson River and Boston. The distance thus to be finished is 24 miles between Willimantic and Mechanicsville Conn., and 76 miles between Waterbury Conn., and Fishkill N. Y. The estimated cost of this work is stated at \$2,145,522. The new equipments, terminal buildings, etc., will require \$4,800,000. The value of the property and improvements at the Fishkill terminus is set down at \$1,600,000.

Yesterday a new section of 14 miles, from Hopewell to Pine Plains was formally opened. At an early hour an excursion train, with a new engine, decorated for the occasion, received a large number of guests at Fishkill, and started for the village of Pine Plains. At Matteawan, Fishkill Center, and Hopewell, large accessions were made to the number. At the last named place are extensive iron mines, and the rolling stock of the railroad has never been sufficient to meet the demands of this one commodity of freight. One hundred platform cars are soon to be added for this purpose.

Iron ore abounds in large quantities along the route, and its development only awaits the regular working of the railroad. After leaving Hopewell the condition of the new section of track seemed to be altogether above that of ordinary new roads. It was as smooth and solid as though it had been worn down by months of hard travel. The embankments are not made hastily, but in layers, and the heavy rains of early January that inflicted more damage to the Hudson River track than had occurred previously since its construction, had no apparent effect on this. At every cross road and station as the train came up, crowds of people gave cordial greetings. At Pine Plains the reception was most enthusiastic. Not only along this branch, but throughout the entire length of the route, it is claimed that the number of inhabitants, amount of business and manufacturing, exceeds that of the Boston and Albany road. The ceremonies of the opening were concluded with a banquet, when speeches were made, toasts were offered, and songs were sung, etc. The excursion party returned to Fishkill at the conclusion of the exercises highly pleased with the present condition and prospects of the road. Regular trains will now run a distance of 35 miles from Fishkill to Pine Plains.

THE SUGAR TRADE.—The annual statistics of the sugar trade of the United States show the imports and consumption of Foreign Cane Sugar, in 1869, to have been in excess of any previous year. The imports, together with the Louisiana, Texas, &c., product, and consumption of all kinds during the last four years, compare as follows:

	Imports, tons.	Product of Louisiana, hds.	Consumption, tons.
1869.....	501,345	.....	574,399
1868.....	490,975	84,256	543,033
1867.....	355,801	87,641	467,268
1866.....	343,497	41,000	452,678
1865.....	362,243	15,500	412,000

The figures of consumption include sugar made from molasses, and the maple product of the country.

Erie Railway.

A correspondent of the Cincinnati *Enquirer* says:

"I have recently returned to Cincinnati from the East over this line, and all I have to say is, that if the Erie is badly managed, I wish all the roads in the country were badly managed too. It is, without any exception, the most comfortable line I ever traveled over. A great portion of its track has been recently furnished with new rails; and a railroad superintendent, whose ability and judgment has been acquired by thirty years' experience, assured me that he never in his whole life rode over a smoother or safer track than that from New York to Cincinnati by this route. He is not interested in the line, and would have hardly given so warm a commendation unless it were deserved. I certainly never was in coaches more elegant in adornment, substantial in structure, or easy in motion, while for safety the fact stands out that in the last year but one passenger, out of 800,000 carried over the Atlantic & Great Western portion of the route, lost his life, and he, confessedly, by his own negligence. On the whole way homeward I watched the advertised time table closely, and have never, in considerable travel, seen one adhered to so closely and certainly. In short, I was never on a better, and I think never on so good a line of road before."

The Policy of the Pennsylvania Central Railroad.

PHILADELPHIA, Feb. 6, 1870.

Thomas L. Kimball, General Western Agent Pennsylvania Railroad, No. 3 Burnet House Cincinnati:

The President of the Pennsylvania Railroad Company authorizes me to say to you, that the statement contained in the Cincinnati Gazette's editorial of February 5, to the effect that this company controls the Louisville and Nashville Railroad, is not true. Neither has the Pennsylvania Railroad Company sought any legislation from Kentucky relative to a charter for the Newport, Lexington and Chattanooga Railroad, or for any other purpose.

H. W. GWINNER,
General P. and T. Agent.

The above is authoritative and to the point. Those who have taken counsel of their fears will rest easier, now that the prospect for "another fence around Cincinnati" has vanished.

Condition of the Boston, Hartford & Erie Railway.

The State Directors of the Boston, Hartford & Erie road have made a report to the Massachusetts Legislature. They give a doleful account of their efforts to have a voice in the management of the road, which was only accorded them at last when a threat was made to lay the matter before the Governor. They were unable to get any financial report from the company, and finally appointed two engineers to examine the road, whose conclusions were substantially as follows:

Twenty-six miles of the road (of the 225 from Boston to the Hudson river) between Mechanicsville and Willimantic, and 76 miles between Waterbury and Fishkill, remain uncompleted, the greater part of the work on these two divisions being, however, executed.

The eastern division requires the excavation of 412,000 cubic yards of earth, 26,000 cubic yards of rock, and the building of 1,200 cubic yards of masonry, and 600 lineal feet of bridging. The expense of this work is estimated at \$426,706 85. The western division requires the excavation of 1,200,000 cubic yards of earth, the building of 270,000 cubic yards of masonry, 5,000 yards of "rip rap" wall, and 2,800 lineal feet of bridging. The expense of this, exclusive of track, is estimated at \$1,602,522 47.

About three-fourths of the iron for this division remains to be purchased. The cost of laying this track is estimated at \$500,000. To put the road in working order, by furnishing the necessary grading, buildings, &c., the cost at the Boston terminus is estimated at \$200,000, and at the Fishkill terminus at \$350,000. For purposes of through traffic there are required, in addition, fifty locomotives, twenty-five passenger cars, ten baggage cars, and one thousand freight cars, which cost not far from \$1,600,000. The total, as figured in round numbers, is put at \$4,680,000.

Southern Railway.

The Hamilton (Can.) *Times* says the charter of the Southern Railway has been sold by Mr. W. A. Thompson to Hon. Isaac Buchanan for \$100,000, and that he has gone to England to raise the money to build the road in the interest of himself and the American Company. The ultimate object is to make this railway an integral and consolidated portion of a great through transit route between the East and the West, with a Northwestern connection by means of a bridge across the Straits of Mackinaw with the upper peninsula of Michigan, and to connect ultimately with the Northern Pacific Railway. It is proposed, also, to form other connections, as one on a point on Lake Michigan, opposite Racine, and further to make the Eastern and Northern Extension Railway Company available for raising thirty millions, ten millions being for the construction of the road, with a tunnel under the Detroit River, and a bridge across Niagara, and the other twenty millions to be applicable in promoting the northwestern connections referred to, and the bridging of the Straits of Mackinaw.

THE WOOLEN MANUFACTURERS' ASSOCIATION OF THE NORTH-WEST.—The third annual meeting of the Woollen Manufacturers' Association of the North-west will be held at the Tremont House, in Chicago, on Thursday, Feb. 17, 1870. The business to be transacted will be the election of officers for the ensuing year; the consideration of propositions for the location of the next annual exposition; the discussion of questions of material interest to manufacturers; and of several amendments and changes in the constitution of the Association—the most important being such changes in the name and plan of operations as will include manufacturers of cotton, silk, flax, and hemp. The name proposed to be substituted is "The Textile Manufacturers' Association of the West and South," in accordance with joint resolutions adopted at the annual exposition held in Cincinnati. Manufacturers and producers of staples interested are cordially invited to be present and take part in the discussions and deliberations.

—Cincinnati exported in the commercial year 1868-9, of horses and mules, 18,473 head.

Railroad Items.

—The Erie Railway Company has kindly sent us two tickets for a trip round the world—from Boston via San Francisco, Yokohama, Hong Kong, Calcutta, Bombay, Cairo, Alexandria, Marseilles and Havre, the whole journey of 25,000 miles occupying 78 days. By some error of the printers, no doubt, the sheet of coupons has received the nullifying imprint "Good For One Lesson in Modern Geography, but not valid for passage." Until this unfortunate blunder is corrected our journey must of course be delayed. In issuing these tickets the enterprising Erie Company simply discount the practice of a few years hence, when baggage will be checked through to Calcutta and "runners" for Bombay hotels will scatter hand-bills through the cars between Boston and Springfield.

—To-day, February 7, the committee selected by a meeting in Covington, last week, to make a survey and locate the route of the Dayton & Stillwater Valley Railroad met in Dayton, and secured the services of a competent engineer. The route extends from Dayton through Stillwater Valley, thence north to St. Mary's, via St. Paris and other enterprising towns, which are seeking an outlet south.

The people along the route are sanguine of success. Randolph township, in the northern part of Montgomery county, subscribed \$40,000. Other counties along the route are said to do as well, or better. Cincinnati is practically the southern terminus.

—The forenoon train coming north on the Utica, Chenango & Susquehanna Valley Railroad was uncoupled at Clayville, February 7, and two passenger cars seized by Collector Degraff, of the town of Paris. A special train carrying the President of the road, Lewis Lawrence and a deputy United States Marshal, was also seized. Passengers were delayed about five hours, and finally brought away by an engine and some cars from the Utica & Black River Railroad. The Southern train did not reach this city until evening. As to-night's train South was going through Clayville stones were thrown at it. There is intense excitement in Clayville, and throughout the town of Paris.

—The Erie Railway Company have decided to erect a fine new passenger depot at Newburgh, N. Y., 125x125 feet, and two stories high. The material is to be brick, with caen stone dressings. This will be one of the most substantial, capacious and elegant passenger depots on the Erie line or its branches. It will be connected on the east by the Boston, Hartford and Erie Company's depot, which will be of about the same dimensions, and the two will form a Union depot. The ground has been surveyed and proposals for the work received. This "short cut" Erie route is to be equipped in every respect to compete with the river boats, and other rail routes to New York.

—A bill for the elevated steam railway in Third ave., New York, has been introduced into the Legislature. Mr. Hatfield, the engineer, has proposed a plan, and the first experiment will be made at Cooper Institute. It is estimated that the cost of an elevated road to Harlem will be about \$3,000,000. The system comprises a continuous bridge resting on iron posts. The tracks are to be partially inclosed. The bed of the track will be watertight, which is to be erected in the center of the avenue. The expense per mile for construction is placed at \$500,000.

—The earnings of the Pacific Railroad of Missouri during the third week of January, 1870, were:

Freight.....	\$24,236 00
Passengers.....	20,671 00
Total	\$44,907 05

—The receipts of the Northern Missouri Railroad for January were:

1870.....	\$213,101
1869.....	119,721

Increase

—The Alabama and Chattanooga Railroad bill passed the Alabama House with the amendment that \$2,000,000 of State bonds should be loaned, in place of \$3,000,000 as was provided in the original Senate bill. The Senate may undoubtedly concur in the House amendment.

—The Burlington, Cedar Rapids and Minnesota Railroad, laid the last rail Feb. 1st, to complete the road to Columbus Junction. This makes a direct route from Keokuk to Davenport, Rock Island and Des Moines, and also from Burlington to Chicago.

—At the annual meeting of the Cleveland and Mahoning Railroad Company, held in Cleveland on Friday Jan. 28, Mr. Joseph Perkins was elected President; and Mr. George Mygatt Secretary and Treasurer, both of Cleveland.

—Owing to a "freight blockade" at Chattanooga, no freight from points beyond that city will be taken by the Nashville and Chattanooga Railroad for the present.

—At the annual meeting of the stockholders of the Providence and Worcester Railroad at Providence yesterday, the old Board of Directors were unanimously re-elected.

—The St. Louis, Alton and Terre Haute Railroad earned in 1867, \$2,207,930; in 1868, \$1,923,862; in 1869, \$2,004,952.

—The Milwaukee and St. Paul Railroad now own 936 miles of railway. Eighty-five miles were put in operation late in 1869.

AN AIR LINE RAILROAD TO BOSTON—The present lines of railroad to Boston are well known—first from New York to New Haven, thence north to Springfield, and from there eastwardly to the metropolis of New England; and the other route, more circuitous, by the way of the Shore Line Railway to New London, and thence by Stonington and Providence.

It may not be known to all our readers that a new and direct line of road between the city of New Haven and Boston is in vigorous process of construction, and will in all probability be through before the end of the current year. The link in this route, which is now being completed, is the New Haven, Middletown and Willimantic Railroad, which runs in a straight line from New Haven to Willimantic, Conn., where a connection will be made with the Boston, Hartford and Erie road, and a complete line formed between Boston and New Haven shorter by twenty miles than the present route. There seems to be every reason to anticipate that the new route will be a very popular and successful one, as the enterprise is in the hands of substantial men, among whom we notice the names of Messrs. Samuel J. Tilden, and Charles A. Rapallo, in New York, and Messrs. David Lyman, O. V. Coffin, Tilton E. Loolittle, and others in Connecticut. —*Financial Chronicle*.

Boston and Oswego.

[From the Boston Bulletin.]

We give below some liberal extracts from an interesting correspondence touching the importance, in a commercial point of view, of opening up a new route between Boston and the great Lakes, via Oswego and the Hoosac Tunnel. The great advantages of such a route have been often pointed out in these columns. It is true they were partially overlooked in the deliberations of the late Oswego Convention, owing to the fact that this Convention was packed for the purpose of accomplishing a single object, viz, the diversion of Western trade to the city of Portland.

But the persons who were delegated with permanent authority to act for that Convention after its adjournment, were practical, shrewd business men, who have repudiated the one idea policy. As representatives of the West and the principal Lake Shore cities, they saw at a glance that their interest would be best promoted by opening the most direct and feasible route from Oswego to Boston, and connecting that route incidentally by a branch to Portland. The reasons why they come to that conclusion are more fully set forth in the following correspondence, the writers of which are well and favorably known to the commercial public in all parts of the country.

These reasons commend themselves to the common sense and experience of every man familiar with the subject of inland trade and transportation. All the "gasconade" of our Portland friends, who profess to be indignant at what they call an attempted perversion of the aims of the Oswego Convention, can not weaken the force of these arguments nor divert the solid men who have taken hold of the enterprise, from their purpose. The first extracts we give are from a letter to Hon. Alvin Bronson, of Oswego, by E. H. Derby, Esq., of this city. He says:

"I deem it of importance to the interests, both of Oswego and Boston, as well as those of my native State, that the best and most level route should be adopted, and it should not be bent by any real or fancied interest of a local nature, so far to the North as to encounter the spurs of the Adirondacks, or prevent it from being used between the lakes and Saratoga, as a common route to Boston, and also via Rutland to Portland.

A line, either through Rome or a little North of it, and through Ballston or the Northern part of Saratoga to Eagle Bridge, would be as far North as it would be safe to go, and would answer well for a line to Boston, Portland, Troy and Albany.

It is a great advantage to combine in one several lines of traffic, as thus the traffic of each can be carried cheapest, and frequent and expeditious trains can be run, and in the event that the new line should be bent to the North it would be eventually injured and possibly superseded by a more level and direct Southern line.

It has seemed to me that the Committee of your Convention did not appreciate or respect the importance of either Massachusetts or of Boston. The products of Massachusetts are now rated as above six hundred millions of dollars annually, besides which it has large returns from mills, factories and railways in other States. It raises less wheat than is required to size its cloth, and few other bread-stuffs, and probably consumes more Western products than England itself—Boston, its metropolis, has this year a valuation of \$550,000,000 against a valuation of \$29,000,000 in Portland, and the annual growth of the valua-

tion of Boston, \$50,000,000, is nearly twice the whole valuation of Portland.

The population of Boston and its environs within an hour of the City Hall, exceed 700,000, while that of Portland does not exceed 40,000. The annual increase of the people in and around Boston is nearly equal to the whole population of Portland.

One of our railways, the Boston & Albany, has brought us 750,000 barrels of flour; but this does not suffice. We have some twenty propellers connecting with our line to Ogdensburg, but these are inadequate to meet our wants.

Portland bent the Grand Trunk away to the East, and laid down a wide gauge to prevent the diversion of freight to Boston, but the freight makes a circuit and comes by steamer from Portland to the loss of all parties, and now we are building a branch from the Passumpsic line, at Derby, to tap the Grand Trunk at Lenoxville, and I have no doubt we shall next summer have six hundred long cars running between the Grand Trunk and Boston with changeable wheels; we are building also a costly and important line to connect with the Erie and Pennsylvania line to Chicago.

But we still need a direct and level route to Lake Ontario, and we have steadily pursued that idea for the last twenty-five years, and think we have found that route through the valleys of the Nashua, Millers, Deerfield and Hoosac rivers to Eagle Bridge, and thence via the Saratoga to Rome or Oswego, and we make the whole distance from Boston to the lake but 333 miles, and the highest gradient in the direction of the business but forty feet to the mile.

Five millions have been appropriated by our State to finish the Hoosac Tunnel, and it now moves with accelerated speed. In August but two sections of the tunnel will remain, each about 5,000 feet in length, each with two faces for the drills, and at the present rate of progress for twenty months thereafter, the work will be finished in May, 1872. We can meet you at Saratoga, and if you will take the lead and grade a suitable and direct railway from Oswego to Saratoga, I am satisfied that Boston will provide superstructure, depots and equipages, and send her fast trains in eleven hours to Lake Ontario. With such a route no line over the Green Mountains or the Adirondacks can, in my opinion, compete successfully.

Give us then the best and most direct route to Saratoga or Ballston, have it graded by May, '71, and expect Massachusetts then to open her purse and complete your undertaking, and to meet you to celebrate the completion on the old battlefield of Saratoga, where Massachusetts and New York stood shoulder to shoulder against Burgoyne."

To this letter, the venerable, but still active and public-spirited Alvin Bronson (eighty-nine years of age) replies, Jan. 10th, as follows:

"I consider the question settled as to the route of the Main Trunk New England and Lake Road—a road as straight as practicable from Boston to Oswego, via the Tunnel. The battle has been fought and won by Massachusetts in settling the tunnel question, and this largely through your agency. This fine road pervades the length and breadth of your populous State. Beyond your State to Lake Ontario is child's play compared with what you have done. When completed this road can not be monopolized and perverted from its original design of bringing the East and the West into near neighborhood.

With our twenty mills and elevators and our half million tons of lake shipping, there need be little danger of monopoly here. We can bring you white winter wheat from the West end of Lake Superior, 1,200 miles, for 12 cents per bushel, and spring wheat and corn from the South end of Lake Michigan at the same rate; for the remaining 333 miles to Boston, I leave the railroad men to make a price.

Now with wheat at 6 shillings per bushel at the West and 12 at the East, corn 4 and 8, meat, fuel and pine lumber with similar discrepancy in price, the East must lower its natural and emigrant population and capital, instead of doubling both, as they should do, with all these cheapened by facilities of intercourse."

RAILROAD IRON.—Reported by Edmund P. Dwight, 407 Library street, Philadelphia, Manufacturers' Agent for the sale of American and Foreign rails and railroad supplies.

The market for rails continues dull. We hear of but few sales. The mills want orders, and will take them at low rates. We quote:

Iron rails, American, over 45 lbs. at the works.....	\$72a75
Iron rails, English, over 45 lbs. at the works (in gold)	57
Iron rails, American, over 45 lbs. at the works, Hammered heads.....	85
Iron rails, American, under 45 lbs. at the works.....	76a82
Street rails, American.....	80a83
Old rails, double heads.....	45a47
Old rails, Ts and Us.....	42a45
Scrap iron, No. 1 wrought.....	39a42
Scrap iron, No. 2 cast.....	28a31

Pennsylvania State Finances.

From the reports of the Auditor General and State Treasurer, the following statement has been carefully prepared, and exhibits the receipts and disbursements for the fiscal year ending November 30, 1869.

RECEIPTS.

Balance in Treasury Nov. 30, 1869.....	\$1,012,925 37
Ordinary receipts during the fiscal year ending Nov. 30, 1869	\$5,241,711 28

Total in Treasury during year ending Nov. 30, 1869	\$6,254,636 65
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DISBURSEMENTS.

Ordinary expenses paid during the year ending Nov. 30, 1869.....	\$2,485,114 27
Loans, etc., redeemed at Treasury.....	109,644 09
Loans redeemed by the Commissioners of the Sinking Fund.....	362,762 09
Interest paid at Treasury.....	170,665 74
Interest paid by Commissioners of the Sinking Fund.....	1,725,578 97

4,853,774 16

Balance in Treasury Nov. 30, 1869.....	\$1,400,826 49
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It will be observed from the above, that part of the loans and part of the interest are paid at the Treasury, and part of both by the Commissioners of the Sinking Fund. This

produces a complication of accounts, which, in order to avoid, and simplify the financial statement, I recommend that authority be given by law to charge the commissioners with the whole amount of the State debt, and also with all the money applicable to the payment thereof, and that they alone be credited with all payments on both principal and interest of the State debt.

PUBLIC DEBT.—The following is a statement showing the nature of the indebtedness of the Commonwealth on November 30, 1869.

Funded debt, viz:	
6 per cent loans.....	\$25,311,180 00
5 per cent loans.....	7,277,384 00
4½ per cent loans.....	112,000 00

\$32,700,564 38

Unfunded debt, viz:	
Relief notes in circulation.....	\$96,397 00
Interest certificates outstanding.....	13,086 52
Interest certificates unclaimed.....	4,448 38
Domestic creditors' certificates.....	44 67

113,976 57

Amount of public debt Nov. 30, 1869.....	\$32,814,540 95
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The public debt on Nov. 30, 1868.....	\$33,286,947 13
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Deduct amount redeemed at the Treasury during the year ending Nov. 30, 1869, viz:	
5 per cent loans.....	\$472,387 18
Relief notes cancelled.....	19 00

472,406 18

Public debt Nov. 30, 1869, as above.....	\$32,814,540 95
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REDUCTION OF THE PUBLIC DEBT.—At the commencement of the present administration, in January, 1867, the total outstanding indebtedness of the State was thirty-seven millions seven hundred and four thousand, four hundred and nine dollars and seventy seven cents. Since then, and up to November 30, 1869, the sum of four million, eight hundred and eighty nine thousand, eight hundred and sixty-eight dollars and eighty two cents have been paid, and, at five per cent, the sum of \$244,493.44 in interest is annually saved to the Commonwealth. Consequently, the total amount of indebtedness of the Commonwealth on November 30, 1869, was thirty-two million, eight hundred and fourteen thousand, five hundred and forty dollars and ninety-five cents.

The reduction during the year ending November 30, 1869, amounts to four hundred and seventy two thousand, four hundred and six dollars and eighteen cents.

ASSETS IN SINKING FUND.—The assets remaining in the sinking fund are as follows: Bonds of the Pennsylvania Railroad Company, six millions three hundred thousand dollars. Agreeably to an act dated March 30, 1869, the Sinking Fund Commissioners delivered all the obligations of the Sunbury and Erie Railroad Company, being third mortgage bonds, to the Alleghany Valley Railroad Company, and received therefor thirty-five second mortgage bonds of one hundred thousand dollars each, making in all, three million five hundred thousand dollars, executed by the said Alleghany Valley Railroad Company, and guaranteed by the Pennsylvania Railroad

Company, the Northern Central Railroad Company, and the Philadelphia and Erie Railroad Company, payable to the Commonwealth as follows:

The principal of one of said bonds (\$100,000) shall be payable each and every year, beginning Jan. 1, 1875, and so continuing annually thereafter until the said sum of \$3,500,000 shall be paid, with interest thereon from Jan. 1, 1872.—Gov. Geary's Message.

Petroleum Production, 1869.

In the Pennsylvania oil district there was a fair increase in the production during 1869—the total product having reached 4,215,000 barrels, against 3,715,000 barrels in the year previous, an enlargement of 500,000 barrels, or about thirteen and five-tenths per cent.

In the first month of the period under review the daily average was about 10,200 barrels. In July it had increased to about 11,700 barrels, and continued to increase until November, during which month the maximum for the year was reached at 13,300 barrels.

The largest wells struck during the year did not produce more than 250 barrels to 300 each daily. Of these there were in all but four. At the close of 1869 there was only one well, the daily yield of which reached 200 barrels, and but about thirty which produced 50 to 100 barrels daily.

The following show the daily average product of the Pennsylvania oil district during the months indicated:

	1869.	1868.	1867.
January, brls.....	10,192	9,700	.....
February, ".....	9,767	9,200	.....
March ".....	9,791	8,621	.....
April ".....	11,067	8,537	.....
May ".....	10,153	9,790	.....
June ".....	11,334	10,102	.....
July ".....	11,697	10,698	.....
August ".....	12,157	11,981	.....
September ".....	12,645	11,033	9,700
October ".....	13,071	10,133	9,600
November ".....	13,317	10,275	9,800
December ".....	12,844	9,737	10,400

The figures representing the daily product for the last four months of 1867 are estimated, but for 1868 and 1869 the figures were obtained from shipments from, and differences in stocks, in the district, and are given above as they appeared in our monthly reports.

The annexed is a recapitulation of the products of Pennsylvania since 1859, the year in which petroleum was first produced by means of artesian wells:

	Brls.
Production in 1859.....	82,000
" " 1860.....	500,000
" " 1861.....	2,113,600
" " 1862.....	3,056,600
" " 1863.....	2,611,300
" " 1864.....	2,116,100
" " 1865.....	2,497,700
" " 1866.....	2,597,700
" " 1867.....	3,347,300
" " 1868.....	3,715,700
" " 1869.....	4,217,100

Total barrels.....27,853,100

The production during 1869 has, it is seen, exceeded that of any previous year, and swells the grand aggregate to nearly twenty-eight million barrels.

The production of the burning oil in the Ohio and West Virginia oil districts in 1869 was, we have from trustworthy sources, fully 1,000 barrels daily, or 365,000 for the year. About two-thirds of this quantity was produced

in West Virginia. The yield of lubricating oil in the same State did not greatly exceed 100 barrels daily.

In Canada the yield averaged about 4,000 barrels per week, and aggregated about 210,000 barrels.

The Kentucky oil region produced about 75 barrels daily, or a total of 27,000 barrels.

In Montana and California, and in Peru, South America, oil was produced, but in unimportant quantities.

The following is a recapitulation of the production in America in 1868 and 1869:

	1869. Barrels.	1868. Barrels.
Production of Pennsylvania	4,215,000	3,715,000
Production of West Virginia and Ohio	365,000	125,000
Production of Canada	210,000	100,000
Production of Kentucky..	27,000	25,000

Total barrels..... 4,717,000 3,965,000

The production in Canada and Kentucky in 1868 is estimated. The increase in the total yield in America during 1869 was, it will be seen, about 750,000 barrels, or about nineteen per cent.—*Titusville Herald*.

The "Mahovos."

The *Mahovos* is an apparatus for storing up the power of a railway train when descending a steep gradient in order that it may be utilized in helping the train up the next gradient that it may have to ascend. It is the invention of Captain Carl Von Schuberszky, a Russian engineer, who exhibited a model at the great Paris Exposition of 1867. This model consisted of an incline, on which ran a train of two or three trucks, capable of being filled with water, and coupled to another truck carrying a pair of heavy fly wheels, mounted on friction wheels. The train being at the top of the incline, the trucks were filled with water, and were then allowed to run down, the fly wheels being put in motion during the descent by the friction wheels, on which their axis was mounted, being driven by the carrying wheels of the truck. On the bottom of the incline being reached, the friction wheels just mentioned were put out of gear with the truck wheels and the fly wheels thus left to revolve freely, while at the same time the trucks carrying the water had their contents discharged. This being done, the fly wheel carriage was turned round, and the friction wheels put into gear again, when the power which had been stored in the fly wheels during the descent enabled them to propel the empty trucks up the incline again.

Concerning the practical application of the invention, Dr. F. A. P. Barnard, President of Columbia College has written the following sketch.

"The *Mahovos* is a pair of fly wheels, and nothing more, their peculiarity being their great weight. It is provided with a truck of its own, which runs immediately behind the engine and tender. The truck has three pairs of running wheels, approaching each other very nearly at their peripheries; in the intervals between them are placed two pairs of friction wheels, resting immediately on them; and in the interval between these rests upon their circumference the large axis of the *Mahovos*, the huge fly wheels themselves overhanging the truck upon the two opposite sides. This pyramidal structure is reduced in height and rendered more stable by giving to the middle pair of running wheels a diam-

eter considerably less than that of their neighbors, and the friction wheels are made of such size as to run close to each other without touching. When the train moves, the *Mahovos* is, of course, set in motion, and the sizes of the wheels and *Mahovos*' axis are so related that a speed of 30 miles in the train will generate in the circumference of the *Mahovos* a velocity of 466 feet per second; and as the *Mahovos* itself weighs about 26 tons, it is computed that with this velocity it will embody a living force of more than 144,000,000 foot-pounds. The *Mahovos*, friction wheels, etc., are constructed in a suitable manner, and of cast steel, to prevent the bursting of the wheels by centrifugal force, and the wheels of the *Mahovos* are plated, so as to form, as it were, drums, and properly cased, to prevent accidents from contact of persons and things with the wheels while in rotation.

"As the train moves from rest the velocity of the fly wheels is gradually accelerated, and finally attains a maximum which corresponds to the maximum velocity of the train. If now the steam be shut off from the engine, the *Mahovos* itself becomes a source of driving power, and will maintain the movement until it has given back the work stored up in it precisely as it was first received. To facilitate necessary stoppages, arrangements are made for lifting the friction wheels off the running wheels, and there is no material loss of power; but if the stop is to be for a length of time the steam is shut off at a distance before reaching the station, so that the power stored in the *Mahovos* may carry the train to its journey's end and exhaust itself in the process. The invention is considered capable of being made very substantially useful, and the question how great or how small may be its real value will not long remain a matter of conjecture. It has already been tried by the inventor on the St. Petersburg and Warsaw Railway, and he states that with its help a double train can be taken the whole way; and a confirmation of this statement may be found in the circumstance that in Russia it has attracted flattering attention both from railroad engineers and railroad directors."

All this appears well on paper, but the question is:—Will all that is gained by the use of the "*Mahovos*" compensate for the carriage of twenty-six tons of extra weight?—a query that we fear in practice will be answered in the negative.

Finances of Rhode Island.

The funded indebtedness of the State at the close of the rebellion, says the *American Railroad Journal*, was 4,000,000, of which there has subsequently been redeemed \$1,072,500, leaving outstanding \$2,927,500 in State bonds, bearing interest at six per cent. per annum, payable semi-annually. None of the bonds are payable previous to 1882.

At the end of the fiscal year, April 30, 1868, the Treasury was overdrawn \$61,574.62.

The receipts from the ordinary sources of revenue for the fiscal year ending April 30, 1869, were.....\$688,503 99
Payments during the same period, exclusive of \$61,474.62 for overdrafts, and \$132,000 for redemption of State bonds were..... 440,590 71

Being an excess in receipts of \$247,912 38
Deducting the last two items above named, for overdrafts and bonds redeemed, and ad-

ding receipts from other sources, there remained in the Treasury on the 30th April, 1869, \$123,224.48.

The estimated receipts of the fiscal year, ending April 30, 1870, are\$650,000 00
Estimated payments..... 580,000 00

Excess of receipts..... \$70,000 00
To which add the balance in the Treasury on the 30th of April, 1869. \$123,224 48

Will leave in the Treasury.....\$193,224 48

RAILWAY PROGRESS IN KANSAS.—The year 1869 has been for Kansas one of success unparalleled in the construction of railways. The *Lawrence Journal* exultantly points to the fact that no other State has in the short period of fifteen years from its first settlement, had 800 miles of railway completed and in running operation. During the year past, not less than \$4,000,000 have been expended in the construction of new and important lines of road. On the Southern Branch Pacific alone (Neosho Valley), since July last, \$550,000 have been disbursed, exclusive of iron, rolling-stock, etc. The miles of road now completed in Kansas, are: Kansas Pacific, 405; Leavenworth & Lawrence branch, 31; Central Branch Pacific, 100; Missouri River Road, 18; Leavenworth & Atchison, 21; Leavenworth, Lawrence & Galveston, 56; Missouri River, Fort Scott & Gulf, 100; Atchison, Topeka & Santa Fe, 27; Southern Branch Pacific, 80; St. Joseph & Denver, 15; making a total of 853 miles. Of this total, 275 miles have been built during the past year. The *Journal* while congratulating the State upon substantial advantages which have more than realized anticipations, says that "the railway question has now become the dominant and all-absorbing one in our State, and will be, until our railway system is rounded to perfectness and completion."—*Chicago Railway Review*.

CHINESE IMMIGRANTS IN CALIFORNIA.—Chinese immigrants in California are subject to the careful supervision of the three companies by whom they have been introduced. The condition in life and occupation of these immigrants are faithfully recorded, and the following interesting statistics have been extracted from the books. It appears that 138,000 Chinese have been taken to California. Of these, 37,323 have returned to China, and 16,426 have died. Of the 90,251 remaining on the Pacific coast, 41,000 are living in California, divided into 31,700 active laborers, and 9,300 women and children, old and decrepit, and prisoners confined in jails. In comparing these figures with the statistics of the United States, it is asserted that out of 41,000 white persons in this country only 8,200 are active producers, and that the 41,000 Chinese, at one dollar a day, earn \$31,700, while the 41,000 of white population, at two dollars a day for each producer, only earns \$16,400.

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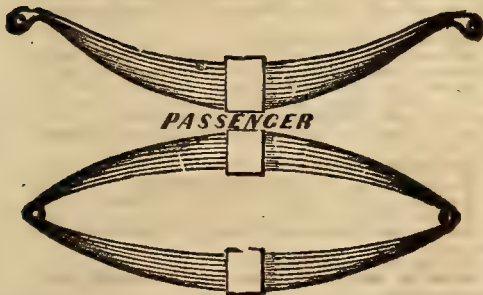
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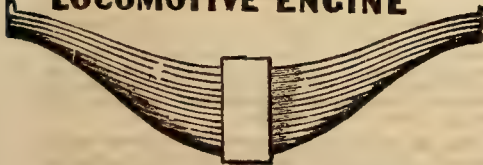
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Notice to Contractors.

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SEALED PROPOSALS will be received at the Engineer's office at Charleston, W. Va., until 12 M. March 1, 1870, for the GRADUATION, MASONRY and the SUPERSTRUCTURE OF BRIDGES on the Chesapeake and Ohio Railroad between the Falls of Kanawha and the Ohio River, including THREE MILLIONS CUBIC YARDS OF EXCAVATION, and SEVENTY THOUSAND CUBIC YARDS OF MASONRY.

Also, at the Engineer's office at Richmond, Va., until 12 M. March 10, 1870, for several heavy sections east of the Falls of Kanawha, including the unfinished work near Millboro', and that eight miles east of the White Sulphur Springs the Great Bend tunnel 6,400 feet; Lewis tunnel, 3,800 feet; five other tunnels from 500 to 1,700 feet long; several sections in rock cutting; and about 70,000 cubic yards of masonry.

Profiles and specifications can be found at the office of the company 54 William street, New York, on and after February 1; at Richmond, Va., and at Charleston W. Va., on and after January 15, 1870. The company reserves the right to reject any or all the bids offered, and to make private contracts for the work.

Information as to time, etc., will be given at the letting. For further information apply to A. D. Whitcomb, Chief Engineer, Richmond, Va., or to W. A. Kuper, Principal Assistant Engineer, Charleston, West Virginia.

C. P. HUNTINGTON,

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President.

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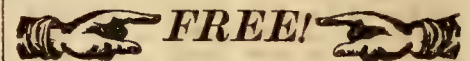
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Night Express..... 10:30 P. M. 6:00 A. M.

The 5:10 P. M. train runs daily. Trains run by Vinnies time, 12 minutes slower than Cin'ti time.

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7.00 A. M., CINCINNATI EXPRESS,

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M.; Urbana, 10.29 A. M.; Galion, 12.57 P. M.;

Mansfield, 1.40 P. M.; West Salem, 2.48 P.

M. (Dine); (Sleeping Coaches through to

New York); Akron, 4.21 P. M.; Ravenna,

5.05 P. M.; Meadville, 7.55 P. M. (Supper);

Susquehanna, 8.10 A. M. (Breakfast); Turner's,

2.07 P. M. (Dine); New York, 4.10 P.

M. Connects at Ravenna with Cleveland &

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4.44 A. M.; West Salem, 5.56 A. M. (Bkfst);

Akron, 7.33 A. M.; Ravenna, 8.20 A. M.;

Meadville, 11.16 A. M. (Dine); Hornells-

ville, 6.19 P. M. (Supper); New York, 7.10

A. M. Connects at Mansfield with Pittsburg,

Ft. Wayne & Chicago Railway for Pittsburg,

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with Franklin Branch for Oil City; at

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The Erie Railway Company has opened a new

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WILL LEAVE PLUM STREET DEPOT, AS FOLLOWS:

	Leave.	Arrive.
Indianapolis and Lafayette Mail....	7.20 am	12.40 pm
St. Louis and Springfield Express....	2.40 pm	7.35 am
St. Louis and Springfield Express....	10.20 pm	3.42 pm
Lawrenceburg Accommodation.....	10.10 am	2.35 pm
Lawrenceburg Accommodation.....	4.30 pm	8.25 am

*The 10.10 pm. train will leave Sundays, but not on Sat-

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VIA WHITEWATER VALLEY DIVISION.

Chicago Mail..... 7.00 am 10.15 am

Chicago Express..... 6.50 pm 9.30 pm

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Cincinnati, Hamilton & Dayton Railroad.

Trains run to and from Cincinnati as follows:

	DEPART.	ARRIVE.
Eastern Express (Erie Railway).....	7.00 A. M.	6.30 P. M.
do do do.....	9.45 P. M.	7.00 A. M.
Toledo, Detroit & Canada.....	7.15 A. M.	10.25 P. M.
do do do.....	6.30 P. M.	7.00 A. M.
Lima, Fort Wayne & Chicago.....	7.15 A. M.	10.25 P. M.
do do do.....	2.30 P. M.	5.40 P. M.
do do do.....	6.30 P. M.	7.30 A. M.
Sandusky, Cleveland & Buffalo.....	7.15 A. M.	5.40 P. M.
Springfield Accommodation.....	2.30 P. M.	10.20 A. M.
Sandusky, Cleveland & Buffalo.....	6.30 P. M.	10.20 A. M.
Muncie & Indianapolis.....	7.15 A. M.	10.25 P. M.
do do do.....	5.00 P. M.	1.20 P. M.
Hamilton, Eaton & Richmond.....	7.15 A. M.	10.25 P. M.
do do do.....	5.00 P. M.	10.20 A. M.
Hamilton Accommodation.....	9.30 A. M.	8.05 A. M.
do do do.....	6.50 A. M.	

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THE SHORTEST ALL-RAIL ROUTE TO

Louisville, Nashville, Memphis, New

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Trains leave Cincinnati as follows:

	LEAVE.	ARRIVE.
Morning Mail.....	7.35 A. M.	2.30 P. M.
Evening Express.....	7.15 P. M.	3.45 P. M.
Night Express.....	11.15 P. M.	5.00 A. M.
Walton Accommodation.....	4.00 P. M.	9.35 A. M.

The 7.35 A. M. train runs daily.

The Low Fare Season and Commutation Tickets, good on

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next morning, giving all day to attend to business. For

further information as to routes, low fare, &c., please apply

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ALLENTOWN LINE TO THE WEST.

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Cincinnati, St. Louis, etc., with but one change of cars.

Silver Palace cars through from New York to Chicago.

FALL ARRANGEMENT.

Commencing August 30, 1869. Leave New York as

follows:

6.55 a. m.—For Easton, Bethlehem, Mauch Chunk,

Williamsport, Wilkesbarre, Mahanoy City, Tuckahoe,

&c.

7.15 a. m.—For Somerville.

8.30 a. m.—For Flemington, Junction, Stroudsburg,

Water Gap, Scranton, Kingston, Pittston, Great Bend, &c.

12 m.—For Flemington, Easton, Allentown, Mauch

Chunk, Wilkesbarre, Reading, Columbia, Lancaster,

Ephrata, Litz, Pottsville, Scranton, Harrisburg, &c.

3.30 p. m.—For Easton, Allentown, Mauch Chunk

and Belvidere.

4.30 p. m.—For Somerville.

5.25 p. m.—For Somerville and Flemington.

6 p. m.—For Easton and intermediate stations.

7 p. m.—For Somerville.

7.20 p. m.—EMIGRANT—Stopping only at the prin-

cipal stations.

9.00 p. m.—For Plainfield.

11.50 p. m.—For Plainfield, on Wednesdays and

Saturdays only.

FOR THE WEST.

9 a. m.—WESTERN EXPRESS, daily, (except Sundays,

for Easton, Allentown, Harrisburg, and the West without

change of cars to Cincinnati or Chicago, and but one

change to St. Louis. Connects at Harrisburg for Erie and

the Oil Regions. Connects at Junction for Stroudsburg,

Water Gap, Scranton, &c. Connects at Phillipsburg for

Mauch Chunk, Wilkesbarre, &c.

5 p. m.—CINCINNATI EXPRESS, daily (except Satur-

days, for Easton, Bethlehem, Allentown, Reading, Harris-

burg, Pittsburg, Chicago, and Cincinnati. Sleeping-Cars

to Pittsburg and Chicago. Connects at Junction with

Delaware, Lackawanna and Western Railroad for all sta-

tions to Scranton. This train will be run to Easton on

Saturdays as a local train, stopping at principal stations.

8 p. m.—WESTERN EXPRESS TRAIN, daily, for Easton,

Allentown, Reading, Harrisburg, Pittsburg, and the West

—connects at Harrisburg with train for Williamsport, Erie,

&c.

Sleeping cars through from Jersey City to Pittsburg

every evening.

Trains leave for Elizabeth at 5.45, 6.30, 6.55, 7.15

8.15, 8.30, 9., 9.20, 10.30, 11.40 a. m.—12 m., 1.10, 2.40

3.00, 3.30, 3.45, 4.15, 4.30, 4.45, 5.10, 5.25, 5.45, 6.00, 6.25,

7.0, 7.2, 7.40, 8.0, 9.00, 9.40, 10.45, 11.50 p. m.

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Central Railroad of New Jersey, foot of Liberty st., N. Y.;

at No. 1 Astor House, No. 254, 271, 526 Broadway; at

No. 10 Greenwich st., and at the principal hotels.

R. E. RICKEY, Superintendent.

H. P. BALDWIN, Gen. Pass. Agt.

The Railroad Record.

E. D. MANSFIELD, - - - - - } Editors.
T. WRIGHTSON, - - - - - }
W. A. MUNSELL, Associate Editor.

CINCINNATI, - THURSDAY, FEBRUARY 17, 1870

The Railroad Record,

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The Geology of Ohio—Contributions by Colonel Whittlesey.

As an economical science, showing the mineral strata of the earth, the valuable elements it contains, and the resources of the country, Geology is a useful science, whatever may be thought of its theories of creation. There is a Geological Survey going on in Ohio, and we hope its results may add to our present knowledge of the great wealth of the State. In the meantime, however, we call attention to some of the Geological results we have already obtained. In 1834, a Board of Geologists acting under a law of Ohio, made a report on the Geology of this State, which, although not completed was very useful. On that board were W. W. MATHER, Col. WHITTLESEY and Dr. LOCKE. They defined very nearly the great coal bed of this State east of the Scioto, and embracing about seventy-six counties and 10,000 square miles of surface. The survey was discontinued, and very little of detailed information was given. Since that, a deposit of coal has been worked in Mahoning county, called the Briar Hill coal, and deemed one of the very best in the entire country. It has also been long known that in the south part of Perry county, near Stuartsville, are immense beds of coal of great thickness and richness. In the last year, the present Geological Board, of which Prof. ANDREWS is a member have been partially engaged in that region. Of the result, "S. W. E." in the *Gazette* gives the following account:

The Board of Geologists for this State have prepared, through Prof. E. B. Andrews, an

elaborate map, to show "what comes of the world" in the way of coal, showing that the great six to nine feet vein at Nelsonville, now reached by the Columbus and Hocking Valley Railroad, is the identical vein shown at Straightsville, to be reached by the Toledo & Pomeroy Railroad; and this they prove, as well by tracing it from hill to hill, as by the sure method of comparing accompanying fossils. By strict analysis, also, Prof. A. has determined that the Hocking coal in question contains within a fraction of as much fixed carbon, and has as little sulphur, in 100 parts, as the famous Briar Hill coal, thus showing that Nelsonville is as good a point for the establishment of great blast furnaces for the smelting of iron ore by mineral coals, as is the Mahoning locality.

If this be correct we have arrived at some practical results, which will be very important in the future development of the State. Substantially then, the Briar Hill, the Nelsonville and the Straightsville coal beds are equally valuable, and all inexhaustible in quantity, and of the most convenient workable thickness. So far then, our Geological Survey has been of great use. Let us now turn to the "Contributions to the Geology of Ohio," by Col. WHITTLESEY. This gentleman, as we have said, was a member of the Geological Corps of 1834, and is undoubtedly in the first rank of Geologists. The "contributions" he has given us, are mostly derived from his own private surveys. But, they are very valuable. These observations were confined generally to the north-eastern part of the State, but are not less valuable as they show still further where lie the best coal seams, which are to supply the future wants of the State. Of the great Pittsburg seam Col. WHITTLESEY says:

There is no seam of the Alleghany coal field which equals in value the one known as the "Pittsburg seam." Its value depends upon the quality, upon its uniformity in thickness; varying from five to seven feet; the regularity of its floor and roof, and its great extent. The Virginia geologists, especially Prof. G. Briggs, traced its out-crop on the eastern side of the basin; from the head waters of the Clarksburg fork, of the Monongahela in West Virginia; northeasterly to near Morgantown, and thence along the valley to Pittsburg. From Clarksburg to Morgantown it dips northwesterly towards the Ohio river. From Brownsville to Pittsburg it rises slightly to the north, reaching there the tops of the river hills. Along the lower Monongahela the dip is nearly west; near Pittsburg the line of out-crop turns sharply to the west, across the Pan Handle, coming to the Ohio river again, high up in the hills opposite Steubenville. Below the Pittsburg seam is a heavy group of rocks, principally sandstone, which is destitute of coal, known in the Virginia reports as the "lower barren group," 300 to 500 feet in thickness. At Pittsburg the first coal seam, below the "barren group," is 200 feet above Lake Erie, and 60 feet above low water, and is not thick enough to work. At New Cumberland, 8 miles above Steubenville, on the Virginia side, the first bed below is about 262 feet above Lake Erie, and dips rapidly down the river, sinking to low water mark, according to Mr. Briggs, at one mile and one third above the

town, being at the rate of about (28) twenty-eight feet in a mile. This bed is here of decided value; for it is of good thickness, and has the peculiar quality of "furnace coal." It is worked through shafts at Steubenville, and at the mouth of Rush creek 13 miles below. I will call it the "Furnace Seam."

Coming to near Wellsville (Columbiana Co.) Col. WHITTLESEY thus describes the Pittsburg seam:

The Pittsburg seam is there 407 feet above Lake Erie, and 543 feet above the Furnace coal in the shaft; and this space represents the barren sandstone. These elevations are liable to small errors for the estimates on which some of them depend for the fall in the river Ohio. Its elevation at Wellsville being 76 feet above the lake, and at Wheeling about 50 feet; the difference for intermediate points is fixed in proportion to the distances, assuming that the fall is regular. From Steubenville to the mouth of Wegee creek, eight miles below Wheeling, on the Ohio side, the general course of the river changes to south 18° west. In this distance the Pittsburg seam gradually sinks to the level of low water, which is about 45 feet above the lake, a difference of elevation 362 feet in thirty miles, being at the rate of about 12 feet per mile. All the miners and mine agents agree, that this bed from Steubenville to Wheeling dips nearly southeast, and reckon it at from 40 to 50 feet to the mile. The entries on the Virginia side are always lower than those opposite them on the Ohio side. In the Ohio mines the coal rises to the west and north, the water sometimes running out freely through adits a mile long, which bear west and by north. On the Virginia side the mines are troubled by water, as they work away from the points of the river hills.

It is very important to know with mathematical certainty, the rate at which this master-bed of the series rises to the north and west; and thus to determine where it crops out on the distant hills, and in the lateral valleys of Belmont county. It is reputed to be found at the general surface of the county, about Mt. Pleasant, and to the north of St. Clairsville, where the elevation is between 500 and 600 feet above the lake. In the bend of the Ohio, opposite Moundsville, this coal is worked in a shaft reported to be (80) eighty feet below low water, and at the end of the reach, at the mouth of Pipe creek, three (3) miles below, in a direction about west, it rises again to the bed of the river.

We now come to the "Briar Hill Coal." This is the coal used in making the pig iron of the Shenango Valley in or near Mahoning and Trumbull counties, and where half the pig iron of Ohio is now made. Of this, Col. WHITTLESEY says:

The sump of Mt. Nebo coal mines, near Lowell, which is the most southerly mine of block coal on the Mahoning, is about 222 feet above Lake Erie. From thence to the sump shaft at Briar's Hill, 318 feet A, is north 46½° west of 7½ miles, and to the lower coal in Ewing's boring on Meander Creek, near the southeast corner of Jackson; 305 feet A, the course is north 85½° west, distance 13 miles. These are the most southerly points where coal seam No. one has been identified. The plane formed by these three points gives for the general dip of the stratum south 22½° east 14 feet per mile. Using Mt. Nebo Briar Hill and the sump near Porter's furnace, in the west part of Austintown, 351 feet A, to construct

another triangle, the result for dip is south 53° east, 37 feet per mile. Another plane formed by Mt. Nebo, Ewing's boring, and Rice, French & Co.'s sump, on Mineral Ridge, 377 feet A, gives south 18° east, 16½ feet per mile. In all these instances except Ewing's the coal has been extensively worked, and I have used the lowest known part of the mine, or the "sump," in place of using the entry or out crop. In this way the undulations of the coal basins affect the general results very little, and they agree very well with each other, as the following recapitulation will show.

Tallmadge, Briar Hill and Sha-	
ron, Pa., level of the old en-	
tries dip south 12° east.....	20 ft. per mile
Mt. Nebo, Briar Hill and Ew-	
ing's, south 22° east.....	14 " " "
Mt. Nebo, Briar Hill and Por-	
ter's furnace, south 53° east....	37 " " "
Mt. Nebo, Briar Hill, Ewings and	
Rice, French & Co., south	
18° east.....	16½ " " "

There are cases where the beds are so warped that the edge of the coal around the crop is 30, 40, and even 60 feet above the sump, which causes much perplexity in mining and in explorations. But in the lower part of the coal basins the coal is more flat and regular. Its thickness is from 3 to 4½ feet and it has an acknowledged superiority over any known coal used in a raw state for making pig iron. It is free burning exfoliating in the stack, instead of caking or consolidating into a mass. The blast thus finds its way through the open spaces freely and evenly as it does in charcoal fuel. Its heating power, though not the highest, is good; it is solid, bearing up a heavy charge, and is so free of sulphur that the metal produced ranks in the market but a shade lower than charcoal pig. If there was any mode by which this coal could be wholly devoted to the manufacture of iron on the spot, and none of it carried out of the country, the life of the iron business on the waters of the Shenango and Mahoning might at least be doubled. Everything considered, this region has advantages nowhere excelled, except, perhaps at the Black Band furnaces, near Glasgow, in Scotland, and not even there for high grade iron.

The Briar Hill coal is now celebrated; and as we have just said, Prof. Andrews has discovered that the Nelsonville and the Straightsville Deposits are substantially the same with the Briar Hill. If this be the case, then we find, that a large part of the coal-field of Ohio consists of the very best coal yet known for the primary manufactures of iron.

Let us now see what is the extent and amount of the coal fields of Ohio: The coal deposits commence on the Eastern side of the Ohio, and on the lower side of Trumbull county; thence through the south part of Portage and Summit; thence into Wayne county; thence down to the east part of Licking; and then on the east side of the Ohio River to the Ohio. This district contains in whole, or in part, thirty counties; and over 10,000 square miles. In a large part of this district, not only one but several seams may be found at different depths, probably to the extent of a thousand feet in depth. Col. WHITTLESEY estimates that the workable vein near, and in Trumbull county, now pro-

duces 3,000 tons of coal per acre. Supposing the average of all coal seams to be only double that (and it must be a great deal more) and supposing, the consumption for use and manufactures to be ten times what it is now it will take one hundred thousand years to exhaust the coal of Ohio! We leave to the imagination of Geologists what will come after. It is time enough to make a half dozen creations, even on Geological principles.

Between the coal seams in the East and the limestone in the West, lies a strip of what is called the "Waverly Sandstone," from the Ohio River to the Lake. In the northern part of the State near the Lake, this stone is used for ornamental purposes. It is also shipped to New York, and several churches are built or building of this stone, which in New York is called the "Ohio Stone." We have seen it used on the Hudson River for churches. Next west of the coal strata cropping out lies a stratum of iron, which is generally about twenty miles in breadth. This commences on the Ohio River and runs east of north, till it leaves the State in the Briar Hill region. In that neighborhood are 27 furnaces, which make over 100,000 tons of pig iron. This iron district beginning on the Ohio, embraces in whole, or in part, the counties of Scioto, Lawrence, Gallia, Vinton, Jackson, Hocking, Perry, Muskingum, Licking, Knox, Tuscarawas, Stark, Columbiana, Mahoning and Trumbull, and probably two or three others. This body of iron is quite sufficient for all the wants of the State.

Bordering on the coal and iron sections, and running along the eastern part of the State, at depths from 500 to 1,200 feet are the Saliferous rocks, in which many salt mills have been opened. Salt was made by the Indians, at Niles in Trumbull county, and is made there by the whites. Salt has been made in Muskingum, Hocking, Morgan, Washington, Athens and Meigs counties. In the last two counties it is made on a large scale. At Pomeroy (Meigs county) the production of salt is not less than 3,000,000 bushels per annum, and the manufacture may be indefinitely continued.

We have now given a brief outline of the mineral resources of Ohio, not however, including petroleum, which is found in some localities. We hope the Geological Survey will add much to the details of what we now know, so that, those who wish to embark their labor and capital in developing these resources may do so knowingly and profitably.

—The Minneapolis Tribune says, that the Milwaukee and St. Paul Railway, notwithstanding they own more miles of railroad than any other company in the United States, are still extending their lines in every direction. During the past year they have constructed in Iowa and Minnesota over one hundred miles of new road.

The Erie Railroad.

Observations Here and There Upon the Management—Improvements Made and Contemplated—Opinions of People in the Matter—History of the Atlantic and Great Western Railroad

Correspondence N. Y. Herald.

BUFFALO, Feb. 2. 1870.

The recent report of Jay Gould on the management of the Erie Railroad has doubtless given people a clearer idea of the condition of this important line than they possessed previously. Not less instructive was the last strike which has been a positive benefit to the company. It has enabled them to get rid of a class of men who were at all times ready to quit work on some slight pretext or other, and it has demonstrated to all employed that the present management of the road is not to be trifled with. As an instance of this spirit the strike of the brakemen and conductors may be instanced. They were swept away and a new class of men employed. In the matter of the conductors a large pecuniary saving was effected—something like \$70,000 more than the previous average having been turned into the treasury of the company the month after they were discharged. Some of the conductors, on salaries of \$100 per month, lived at the rate of ten thousand a year, had their own handsome houses and horses and made their nominal wages run wonderfully far. Jim Fisk I believe it was who perceived that a healthy change would be that of exchanging one set of conductors for another, and he did so, with consequences of an eminently satisfactory character. The old conductors, of course, had numerous friends and acquaintances at every point on the road and when they were discharged they had many sympathizers and the road had many enemies.

THE ERIE MANAGEMENT.

The management of the road is a matter which is an important corollary of the late strike. At this particular time when so much attention is directed to the Erie Railway and the report which Jay Gould has made excites so much interest by the figures it gives of progress and prosperity, the actual impressions of one who has traveled carefully over the road, stopping at various points and conversing with people more or less connected with it may be of advantage in forming an estimate what this great highway is like and what has been done for it. There is no question but that it is vastly improved from what it was three or four years ago, and that its future prospects look brighter day by day. One hundred miles out from Jersey City the traveler, standing at the rear of the train and looking at the track over which he is being rapidly whirled, is reminded of an English railway in the broad, firm and carefully packed road bed and the high, smooth, solid and unsplintered steel rails. This is one improvement of very material importance—expensive, no doubt, in the start, but cheap and every way more profitable in the long run.

Then, there are the cars, which at one time in the history of the Erie Railway were mean looking and very uncomfortable for passengers, but are now certainly equal, if not superior to those of any other line. There, for instance, is the drawing room coach already described, which for luxury on wheels beats any thing that I am acquainted with. You find the station houses are of an improved order. Those at Susquehanna, Elmira and Hornellsville are decidedly fine. Some are of

stone, as at the first mentioned place, and, on a small scale, are as luxuriously appointed as the Grand Opera House itself, where the testive Fisk reigns amid the princely surroundings of walnut furniture penciled in gold. The bridges and culverts are being overhauled; iron is taking the place of wood, and the length of the double track is being extended. At this point the Erie suffers one great drawback in the absence of a passenger depot commensurate with its large and rapidly increasing traffic. Buffalo being one of the principal competing points between the Erie and its principal rivals this is a great disadvantage. Propositions have been made from time to time to construct a grand union depot for the Erie, Lake Shore and Central roads, and considering that their lines run side by side here this would be an admirable arrangement and afford every convenience and accommodation to the traveling public. But the Central, being already provided with a pretentious structure, prefers to stand aloof from its dreaded competitor. Nothing remains then, but for the Erie to build a depot of its own, and that has been determined upon by the present management. If the plan exhibited to your correspondent be carried out in all its elaborate details the projected depot will be one of the architectural ornaments to this city of magnificent intentions. It will be a broad gauge building *par excellence*, and the waiting rooms will rival the saloon coaches in the magnificence of their appointments. The existing passenger depot is a standing reproach on the old management, and the sooner it is improved upon the sooner the passenger traffic from this point will increase. The workshops at this point are not so extensive as at Jersey City or Susquehanna. They are used for repairing disabled locomotives, passenger and freight cars, but if necessary can be adapted to the original construction of rolling stock. There was a time when the road was so reduced in efficiency that it was necessary to buy and borrow engines in different quarters, but now this is all changed. They have ample capacity at Susquehanna to build all the locomotives they need, and they do so, and at Elmira cars are constructed on a scale commensurate with the wants of the company. Here they have a car shop where repairs can be carried on extensively. It is curious to witness the transformation which one of the disabled vehicles of travel undergoes in this department. It may be some poor old passenger car bruised, broken and disfigured all over that to-day comes in to get renovated, and is sent out to-morrow the very counterfeit presentment of its original self as on the day it first left the hands of the workmen. They wash, scrub and paint it anew, mend the broken places, and take the faded plush seats, and by some process restore the color to a more dazzling crimson than it was originally.

THE TRANSFER OF FREIGHT.

In his report Jay Gould speaks of the arrangements made for the exchange of business here with the Lake Shore road. This I find to be the exchange of freight in bulk from the cars of the Lake Shore narrow gauge to those of the Erie broad gauge. Hitherto corn from the West when not shipped by canal, went by rail in bags, but now it is brought here in bulk and shoveled quickly from one set of freight cars to the other, as they lay side by side. Another style of transfer is from the boats, of which the Erie Company owns twenty-six, by elevator to the cars. The elevator stands by the river shore, towering up a great height in the air and looking like a dismantled cathedra-

dra. Under its ponderous trunk—a good name for the apparatus which dips into the hold of a boat and swallows up the grain—the propellers cast their moorings and discharge their cargoes. The corn disappears from the boat in quick time and drops into freight cars drawn up inside the elevator house. These propellers twenty-six in number, are each of considerable size, somewhat larger than the steamers between New York and Newberg. In the season of their usefulness they ply to every place of any importance on the Lakes. They reach away up the mines of Lake Superior and bring down these mountain piles of ore that burden the docks around here. They fetch down every thing of a commercial value, and are indeed a great institution taken collectively. The freight thus brought to the Erie Railroad is something enormous, and to the far-sighted vision of Jay Gould is the road indebted for the addition. Looking around here, first at the geographical position and next at the concentration of the lines of communication, it is easy to forecast a great future for Buffalo. The present conception of the Erie Company is to make it a great depot for coal brought from their own mines, and shipped by their own boats to a thousand places on the lakes. To do this effectually they have determined to extend their frontage 3,000 feet and increase the depth of water to fifteen feet. Here the boats will draw up, and by an inclined plane the cars will be made to carry the coal to an elevation from which it will be shot like a flash of lightning into the awaiting holds below. The improvement under way is of an arduous nature, an immense coffer dam having to be erected, and a vast body of water pumped out for the purpose of blasting the rock in the bed of the river.

The freight houses of the Erie Company are large, and commodious brick buildings, the principal one being 560x200 feet, and well calculated to convey an idea of the immense freight business that flows this way eastward.

OPINIONS OF THE PRESENT MANAGEMENT.

Talking with a gentleman who was one of the old directors of the Erie road, and has been living here for the past ten years, as to the former management he said, "The men we had in the direction in my time were a set of barnacles; they let the road run itself, compromised with every kind of strike, and never showed a solitary bit of enterprise. I could see fifty ways of improving the road, but they could see none; they were fossilized. The present management is the best the road ever had, and every body says so who knows any thing about it. Jay Gould has given more time, attention and energy to developing, building and sustaining this road than all the boards of directors that have gone before him. I know this, for I travel over the road very frequently to New York, and can see a great many things he has done for the purpose of benefiting it. He has doubled the supply of rolling stock and doubled the coal traffic. In my time we hardly ever got freight from here to Rochester; now they send 100 cars per day. No effort was made under the old management to compete with the Central at Rochester, and the receipts from passengers reckoned only a few thousand dollars a month; now they count over fifty thousand. On every side I see evidence that great strides have been made towards making Erie what it ought to have been long ago, the great highway of the East, but for the number of sleepy old fossils that had the management; and I think, too, that the people of Albany are standing in their own light in neglecting the chance of incorporating the Albany and Susquehanna

Railroad with that of the Erie, and sharing in the enterprise that directs it."

Others I have met outside of the men immediately identified with the road, who speak in a similar way, all going to show that no matter what Fisk and Gould may do in Wall street, they have done much of substantial service for the Erie Railway.

MISREPRESENTATION OF THE ROAD.

The persistent misrepresentation of the condition and conduct of the Erie road, which certain rival corporations have found it their interest to invent, and circulate for the purpose of diverting a portion of the immense business of this great thoroughfare to their own lines, may have influenced such as are far removed and have no opportunity of judging for themselves. In New York the Erie management is more widely known by its connection with the recent gold conspiracy, but here in Buffalo its fame rests principally upon the genius and enterprise of its guiding spirits. "While Drew had charge of the road," remarked a leading flour merchant to your correspondent, "I would not send a single barrel of flour over it, much more risk myself on it. I did my business by the Central, but now that the Erie is in good hands I send all my stuff over it." Pointing to an immense pile of lumber in a yard near the depot, one of the officials of the road remarked, "There, sir, is a business which is materially increasing our revenue, and yet it is only about a year since Mr. Gould set about developing it. We had no lumber business at all before his time, and now, though yet in its infancy, it has outgrown our present facilities," and so on. The coal and iron shippers are especially loud in their praise of the present management, as they have been afforded facilities for shipment and transportation they never enjoyed before.

In conclusion, it is fair to say there is nothing strained in the interesting report made by Jay Gould to the stockholders. If he succeed in declaring a dividend one of these fine days every body will believe him. The report is satisfactory enough, but a dividend would be still more so. His enterprise in securing the carrying trade of the extensive coal region of Carbondale and other points in Pennsylvania, redounds vastly to the benefit of the road, time will prove the correctness and vast pecuniary value of the speculation. When Gould's plans for making the Erie road rich and powerful are matured, he may bid defiance to adverse criticism, for so far he has sufficiently demonstrated the ability to move forward and be successful in spite of almost overwhelming difficulties. The Erie will then no longer be a reproach to New York, but rather the brightest gem in her glittering diadem of grand and noble enterprises.

Atlantic and Great Western Railroad.

Resume of Its History—A splendid Enterprise and its Early Mismanagement—Visions of the Projectors—The Ruin of the Road—Fisk and Gould to the Rescue—Future Prospects

MEADVILLE, Pa. Feb. 4, 1870.

The History of the Atlantic and Great Western Railroad, which has one of its principal stations at this point, furnishes a curious and instructive lesson in commercial enterprises. It was projected, under splendid auspices, ten years ago, from the Indian village of Salamanca, on the Erie Railroad, the well-known James McHenry being contractor, father, and finally came near being fune-

al undertaker. Thomas W. Kennard, who came, it is alleged, to this country with hardly enough means to pay his passage, was chief engineer; but when he severed his connection with the road he claimed the wealth of a billionaire. The stock holders hailed from England, and among them figured Sir Morton Peto, who freely unlocked the fountains of his treasure and poured into the new enterprise, which the dauntless McHenry undertook to carry through. High hopes accompanied it. Visions of grasping the whole trade of the West, Northwest and Southwest the lakes, the Mississippi, and finally the Pacific coast, floated before the fancy of the projectors, while just as it was started came the wildly exciting intelligence that oil of precious properties was springing like a fountain of living waters from the soil almost directly in the path of its progress. An immense force of men was placed upon the work, and it was hurried forward under the inspiring genius of McHenry at as rapid a pace as the Union Pacific. English capital was lavished upon it as capital was never lavished before. Here at Meadville a station was put up rivaling in the style and beauty of its surroundings, any of those you may notice on the best railroads in England; charming cottages for the officers of the road; a park at the rear, with winding walks, fir trees, rose and jasmine bushes. A hotel of over 100 rooms and a dining room as long as a train of freight cars were a portion of the grand enterprise. In the fall of 1862 the road reached here, after creating two towns, named Corry and Jamestown, on its way from Salamanca. It was pushed steadily along—broad gauge all the way to Dayton—and from there, by laying down a third rail on another road to Cincinnati, ultimately reached the Queen City of the West—striking the Ohio and aiming for the Mississippi. A branch called the Franklin was built from here to Oil City, and another from Braceville to Cleveland. The region of flowing petroleum was tapped at the opportune moment, and by way of the line to Cleveland, the oil was carried to the refineries. Looking over the railroad map which represents one continuous broad gauge road, extending from New York first by the Erie, then by Atlantic and Great Western to Cincinnati, you will readily admit that the visions of James McHenry and his confiding English friends were none too sanguine. How much more exalted might the British fancy have become had the two roads at that time been of one construction and management, the Erie stretching to the lakes through the great State of New York and lapping its branches around the richest coal beds of Pennsylvania, while the Atlantic drew off the abundant and exhaustless riches of the oil region! Such is the state of affairs now, but it was not reserved for McHenry to be the instrument of its realization. The road started out with really magnificent prospects. It opened up a new and wonderfully rich region; it struck for the carrying trade of the mighty West; it infused a quickening growth into the old and fossilized towns through which it passed, building up an important local traffic and directing a fresh current of commerce towards the State of New York.

Notwithstanding all this the road failed to prosper and went steadily down until the beginning of the year 1869. Grossly corrupt and inefficient management brought this splendid highway to a condition of reproach. The directors and others identified with it appear to have shown a strange lack of energy and foresight when a little of either might have rescued the concern from the verge of bankrupt-

cy at which it arrived. The present management of Erie, which succeeded in saving that road from bankruptcy or absorption by that hardy mariner, the much bronzed Vanderbilt, is the only one it seems to me, that can bring back the prestige and carry out the destiny of the Atlantic and Great Western Railroad.

WHAT THE ROAD CREATED

That this destiny is one of vast import may be seen by a brief survey of the map. The first station of note after leaving Salamanca is Jamestown. It is situated at the head of the rapids at the outlet of Chautauqua lake, New York State. Two steamers ply to Mayville, a station on what is called the Cross Cut Railroad. Vast quantities of lumber are floated down to Jamestown, and from thence sent by rail or river in various directions. Jamestown was created by the Atlantic and Great Western road less than ten years ago, and is a lively bustling town. The next place of importance is Corry, a similar creation to the one already mentioned, but of larger and more earnest growth. It is the terminus of the Oil Creek Railroad, the Brocton Cross Cut Railroad and the crossing point of the Philadelphia and Erie Railroad. It has railroad communication in five different directions, and will shortly have a sixth. It has large machine shops, woolen and hardware factories, three national banks and seven churches; yet twelve years ago it was a dreary wilderness. Next comes Meadville, an old village lingering for years in venerable vegetation but touched by the magnetism of the railroad, bloomed into willing freshness and prosperity. It has factories, banks and colleges, and a population of about 12,000 inhabitants. A line of boats run to Pittsburg and to Erie on the lake by the Erie Canal, of which the Venango river is the feeder at this point. West of here are other towns on the line of the Atlantic and Great Western, which have either been called into existence or impelled to prosperous expansion by the road.

ONE WAY OF ROBBING THE ROAD STOPPED.

It should be understood that before the projection of the line this section of Pennsylvania was a comparative *terra incognita*, its resources unknown, and means of communication rude and primitive in the last degree. The measure of development it has received through the agency of this railroad can not be adequately gauged by figures, but that the railroad itself should have failed to reap the reward for the benefits it conferred is a question which resolves itself into the simple solution that its management was extravagant and incompetent. I heard a good joke at Salamanca going to illustrate the light in which the former conductors on this road viewed the change of management, which occurred over a year ago. The road had depreciated so much, its receipts had diminished so low, that it went into the hands of two receivers, one of whom was Jay Gould. The latter set to work with his accustomed energy, and pursued the same plan of action in striving to resuscitate the fallen fortunes of the Atlantic which he had previously used in the case of the Erie. He saw one leak in the receipts was the stealings of the conductors, and according to all accounts these were notoriously wholesale. Whether American prejudice to many things English got the better of their consciences or not, certain it is that the conductors indulged in an easy swing of the passenger receipts, and made a beggarly show to the treasurer. "Now I don't see why Jay Gould should have discharged us," observed an ex-conductor shortly after his dismissal, "for if we had not knocked the stamps as we

did he would never have been made receiver."

The doings of the conductors, detrimental as they were to the pecuniary interests of the road, were but a trifle compared with those of officials higher in authority. United to extravagance in almost every department was a total absence of enterprise or effort towards arresting the downward progress of the concern, and hence a receiver was appointed, and hence it was that English capitalists bewailed their American experience. But there was really never a better prospect before the road than there is now, and a year or so will certainly prove that the wisest thing its stockholders ever did was to lease it to the Erie line and let the two be consolidated under one vigorous management. Time will show that the destiny of these lines and that of the Ohio and Mississippi, the three being of the broad gauge width, is to reach from the Atlantic to the Father of Waters in unbroken union and under a single direction.

THE DIVISIONS OF THE LINE AND ITS TRAFFIC.

The Atlantic and Great Western is made up of five divisions—first, from Salamanca to Meadville; second, from Meadville to Kent; third, from Kent to Galion; fourth, from Galion to Dayton, and fifth, the Mahoning branch, which now extends from New Lisbon to Cleveland, and has a spur running out to Sharon. Each of these has a superintendent, and then a general one for all, who resides here—Mr. O. S. Lyford. Mr. L. D. Rucker was formerly general superintendent for a term of two years. He introduced an administration of economy which proved very distasteful to many of the old employes, who remembered the halcyon days when the princely Peto and his party of reputed millionaires journeyed over the line, and said everything looked lovely, though their money had been squandered or buried in the roadbed over which they rolled. The branches or feeders of the line are numerous and increasing in number. The one from Oil City to Corry brings the crude petroleum in tanks for shipment over the Atlantic and Erie to New York. The Mahoning branch to Cleveland is almost exclusively an oil route, and supplies the refineries in Cleveland with the crude oil from the wells. The importance of a freight like this, the bulk of which is every year increasing, can not be overestimated. Petroleum is not about to give out, as the popular anticipation would have it, but will continue to form one of our great and permanent staples of export, even as cotton and grain do. The oil trade is one heavy item of traffic on the Atlantic line, next coal, then grain, and lastly general merchandise. The through passenger traffic has greatly increased since the consolidation with Erie. The local traffic is considerable. The increase of 1869 over 1868 on the Erie line is, according to the president's report, 302,765 passengers, and this, in a great measure, is due to the consolidation. The freight traffic of the Erie shows an increase in 1869 over 1867 of 787,216 tons. Next year will probably exceed this figure by a quarter of a million and the year after by over half a million. To this prosperity the Atlantic and Great Western Railroad has contributed no inconsiderable share. As a passenger route from New York to Chicago and Cincinnati it makes with the Erie one unbroken broad gauge track to the latter city and Cleveland.

THE PRESENT MANAGEMENT.

The Atlantic and Great Western was leased by the Erie company 1st of January, 1869, for one year, and has now been leased again by the same company on "substantially the same terms as of the original lease." The rolling

stock of the Erie operates on the other road along with that of its own. The Atlantic and Great Western road was wretchedly provided with freight and passenger cars and owned but a limited number of locomotives. The Erie motive power is now used extensively from one end of the road to the other. The station houses on the line from Salamanca here are good, the trains make excellent time and the roadbed is improved very much from what it was a few years ago. The future before it is vast and only needs a clear headed management to make it certain of attainment. Talking to a gentleman to-day on the prospects of the line, said he, "If they will only leave it in its present hands the Atlantic and Great Western will be one of the first roads in the country. They may talk as they please about these men, Fisk and Gould, but you've got to fight the devil with fire. You've got to fight Vanderbilt, Drew and such men with their own weapons, and it's all a waste of talk to say a road like this can be made what it ought to be without raising a hue and cry in some quarters." But it is necessary to penetrate the oil regions before saying more about the great resources upon which the road may rely for support.

Railroad Companies—When Liable for Killing Stock—Compensatory nor Vindictive Damages not Allowed.

The facts of the recent case of the Toledo, Peoria and Warsaw Railway Company vs. Arnold (43 Ill 418) are fully and clearly stated in the following opinion by

BREESE, J.—The only ground on which this court can interfere in this case, is that the damages are greater than the proof allowed.

The action was brought to recover damages for killing certain live stock of the plaintiff, not intentionally, by the defendants, or by proving negligence in running their trains, but by the inference of negligence by reason of their failing to fence their road.

The plaintiff's claim to compensation manifestly rests upon the value of the property destroyed, and upon nothing else. The measure of the damages would then be necessarily, the value of this property. It is not a case for punitive damages, or vindictive damages, as claimed by the defendant in error. It comes under that class denominated compensatory damages, which are given in cases where aggression and malice are not present, and they are intended to furnish actual compensation, as near as may be, for the actual injury done. To illustrate: A happens, accidentally, in performance of a lawful act, in a lawful manner, to kill B's horse.

It would be preposterous to contend, that B should punish him in damages beyond the value of the horse, for an act he did not intend to do. So here, there is no aggression or malice pretended, but a mere accident, for the occurrence of which the plaintiff was responsible in a certain degree, in allowing his stock to roam about on land traversed by a railroad. The law pardons this his negligence, but it does not require smart money shall be given to him over and above the just value of his property destroyed.

No circumstances of aggravation are shown or pretended. The proofs in the cause show that the total net value of the animals killed, and proved to be the property of the plaintiff, was four hundred and eleven dollars. The verdict was for four hundred and forty-one dollars, thirty dollars more than the proved value of the property. There is no proof

whatever that the steer killed was the plaintiff's, nor is it claimed in the declaration. The verdict is not warranted by the evidence. The amount of the recovery is unjust and can not be sanctioned.

The judgment must be reversed and the cause remanded.

Judgment reversed—*American Railroad Journal*.

Electricity as a Motive Power.

Mons. Emile Prevost, a French electrician, who has been in this country some time with a view of introducing a new application of electricity as a motive power, extended an invitation to a few gentlemen on Saturday to witness the performance of his machine. Unfortunately, previous to the hour named, a very heavy current of electricity was sent from the battery through the main magnet, which had the effect to either overheat or burn the smaller magnets, so that the machine would not operate properly. It has been running during the past forty days and nights, at a cost of ten cents each twenty-four hours. The apparatus consists of an ordinary galvanic battery, each jar being of about one gallon capacity. The poles of the battery cups are connected with a powerful magnet and the increased electrical power is then transmitted to the electric engine. It varies but little in general principles from the ordinary electric engine, the novelty being in the magnet, which is first formed by taking an even grained piece of horse-shoe wire and turning it down to the required proportions—the one shown being three inches in diameter and about 18 inches in length. The ends of the magnet or the poles are turned out so as to leave a face of five inches in diameter. The iron is not hammered but turned in a lathe, and afterward bent in the shape of an "U." The iron then passes into the hands of the inventor, who treats it to a series of bakings in various temperatures, the process being a secret. From two to three weeks are required for this tempering process. When it is complete the iron again goes to the machine shop, when the faces of the poles are made smooth and even. The magnet is then placed in an upright position within a copper box $7\frac{1}{2}$ by $15\frac{1}{2}$ by 14 inches, and the space filled in with a preparation closely resembling sealing wax. The faces of the magnet are perfectly in a line with the upper end of the box. In this state the magnet is connected with the electric battery, and the wires are ready for connection with the electric engine. The machine for transmitting the power and motion to a line of shafting consists of a flat-faced lever fastened at the upper end. A smaller magnet of the same construction is placed on the vertical bed-plate, with the poles so situated that they act alternatively upon the lever, attracting and repelling it. The other extremity of the lever connects with another lever, or arm, in a reversed position to the main one, and by means of a connecting rod the motion is imparted to the crank-shaft, on which is secured a fly-wheel and the pulley to connect it with the line of shaft pulleys. The starting or reversing of the machine is accomplished by means of the ordinary connections of an electric circuit, the application of one pole having the effect to move the machine forward, and the connection of the other pole to reverse it; both connections being removed, the machine is at a stand still.

Mons. Prevost has two machines on exhibition, one representing one-horse power, the

other one-man power. In addition to the large magnet above described, which has a power capable of sustaining 2,500 pounds weight, he has two of about nine inches in length, five inches in depth, and four inches in width. These last named are supposed to exert each about one-horse power, and a smaller one about three inches in length, two inches in breadth, and one inch in depth. This latter magnet, with a very small battery, is sufficiently large to run a sewing-machine. The large magnet is estimated to exert a power of between seven and eight horses, and is applicable to printing presses, hoisting machines for store houses, &c.; the cost of working all these magnets being the same—10 cents per day. The inventor claims that his magnet is peculiarly valuable in the working of submarine cables, as by its application the cost of keeping up large batteries is reduced to a mere nominal sum, while it will produce far more equal and powerful results than are obtained by the present system of voltaic piles.

A few weeks ago the residence of M. Prevost was entered by burglars, who, strange to say, only took the magnets from his electric engines, although articles of greater intrinsic value were scattered around the room. He is of opinion that other parties interested in developing electricity as a motive power were unscrupulously anxious to avail themselves of his labor and secret. If this invention proves successful—which is certainly probable—it must produce quite a revolution in the present system of telegraph batteries, and it will, doubtless, in time be applied to light labor-saving machines. It is the intention of the inventor to erect several large machines and practically test his theories.

Welding Pieces of Cast-Iron.

A foreign exchange states that in some parts of Asia itinerant tinkers pass through all the avenues of populous cities, shouting as they go, "Old kettles to mend!" If a hole or crack has been made in a cast-iron pot, these vagrant workmen will apply heat to the metal around the hole, or along the crack, with such admirable precision, that a damaged kettle can be repaired in a few minutes at a trifling expense. Numerous instances have recently been recorded, in which two large pieces of cast iron have been satisfactorily united, so as to be as strong as a new piece, by simply fixing the parts in the desired position, and then pouring on melted iron until the surfaces of the broken pieces were so plastic that there would be a complete union with iron in a liquid condition. As soon as this degree of heat is attained, the issue of the mould is closed, and the cavity is filled with melted iron, which unites the two parts in a most perfect manner.

The following instances of a very interesting and important experiment, taken from the *London Practical Mechanics' Journal*, will give a more perfect idea of the manner of repairing articles of cast iron. The writer says: "This method of mending cast-iron rolls we had the opportunity of proving in its feasibility, at one of our American rolling-mills in New Jersey, three years ago. In this case four columns were to be cast, and the writer and superintendent of the foundry proceeded as follows:

"All four were cast sound and without a blemish, except that upon the top box in which one of these was cast, all being cast in

green sand, some one had unluckily dropped a bar, or something heavy, or put a foot upon it, and produced "a crush" which rendered one of these horns utterly amorphous. The casting, otherwise perfect, was in that state absolutely useless, and was about to be broken up, when the writer resolved to try and save it by attempting to "burn on" a new and perfect horn. The old and defective mass was carefully cut off to absolutely sound metal. Loam cakes having the proper form for the horn were taken from the pattern, and the surface of the cut metal was well dusted over with powdered glass of borax. After that, the mass of the frame, in close proximity with the defective place, had been heated red hot in a coke fire built up round it. The fire was then raked away, the loam cakes secured in place, and several hundred pounds of very hot liquid cast-iron were, for some time, kept flowing through the cavity of the loam cake hollow mould. At length the flow was stopped, when the cut surface could be felt, with the point of an iron bar pushed through the running metal, to have become pasty and soft, and the iron was then permitted to set. When finally stripped, the new horn was found to be perfectly united with the remainder of the casting; and when struck, it gave the clear sonorous ring which proves complete metallic continuity.

"The success, in fact, was perfect, and somewhat surprised both the writer, to whom so large an instance was new, and the marine engineer responsible for the supervision of the work, who would not pass the casting until he had assured himself of the safety of the horn by striking it heavily with a sledge-hammer. This method is capable of being applied, not infrequently, with similar ends in view, and may often save the condemnation of a casting, and effect a good deal of economy. It can almost always be made effective, if the methods be judicious for attaching, as in the above case, a heavy piece to the casting. It is a far more delicate and difficult task to make it succeed with smaller and more delicate work, and there are certain cases in which it is useless to attempt it.

VELOCITY OF THE ELECTRIC WAVE—Professor Gould found the velocity of the electric wave in the Atlantic cable to be between 7,000 and 8,000 miles per second, differing somewhat when the circuit was composed of the two cables, and when the earth formed a part of the circuit. Telegraph wires placed in the air on poles conduct the electric wave with about double the above velocity, and the curious fact has been discovered that the rapidity of transmission increases with the distance of the wire from the earth. Wires buried in the ground transmit as slowly as the submarine cables; wires on short poles with a velocity of some 12,000 miles per second, and those on long poles at the rate of 16,000 to 20,000 miles per second.

—We are informed that work is progressing with great rapidity upon the Little Rock and Fort Smith Railroad. The whole length is 155 miles—all under contract, and work commenced on 80 miles. The first twenty miles are entirely graded, and the track is being laid. The cars will be running over this portion by 15th March, and the work upon the divisions is so timed that the track will progress without cessation. The whole road is to be completed in the spring of 1871.

WEST WISCONSIN RAILROAD—The Milwaukee Chamber of Commerce lately sent out a Committee to examine the route and completed portion of the West Wisconsin Railroad. The Committee made a report and the Chamber adopted the following resolutions:

Whereas, This body has official information of the opening of the second division of the West Wisconsin Railroad, from Black River Falls to Augusta, and that the road is now open and running trains regularly from Tomah to Augusta a distance of 66 miles; and

Whereas, We have watched with no little interest the progress of a road which is opening to our city a section of the State heretofore not reached by our railroad system; therefore, be it

Resolved, That the energy of President D. A. Baldwin of the West Wisconsin Railroad, and his associates, in carrying forward so important an enterprise for our State and city, entitles them to our confidence and respect.

Resolved, That the economical manner in which Mr. Baldwin and his associates, have built this road, and managed it and its large land grant, investing their private means until a solid and substantial basis has been gained, assures us that in appealing to capitalists for aid in the further construction they do so with every assurance that the investment will be a safe and profitable one.

Resolved, That the Managers of the West Wisconsin Road in this enterprise of so great importance to our State and city, have the confidence of this body, and that we will extend to them all the aid in our power.

Resolved, That this report, with the resolutions attached, be entered upon our record, and that the newspapers of our city and the section of country interested, be respectfully requested to publish the same.

AUGUSTA AND KNOXVILLE ROAD—The proposed railroad, when completed, is likely to become one of the most important lines of communication between the Atlantic coast and the Far West. The plan of the projectors, as at present developed, is to carry the work through Rabun Gap into Tennessee, and then connect with the Blue Ridge Railroad, leading to Knoxville, and through that, with Cincinnati and the great West. This route will be shorter by one hundred miles and more, than any now open between the Far West and the Atlantic coast—with which latter it will connect by means of the Augusta and Port Royal road. This harbor is the best on the Southern coast, not even excepting Brunswick. The largest sea-going vessels can come into Port Royal, and anchor at the piers, without any other pilots than those they carry at sea, and with the completion of the proposed railroads, a line of steamers will run direct to all the principal European and Mediterranean ports.

This route will also shorten communication between the West and South America, and the Gulf Islands by several hundred miles—Savannah, Port Royal and Charleston being far more convenient points of intercourse with them than Baltimore and New York.

It only remains to be said that the Northern Company who have taken hold of this work is composed of men of extensive means and large experience in railroading and financiering, while the name of a distinguished Georgian, Hon. H. B. Casey, of Columbia, as President of the projected Augusta, Hartwell and Rabun Gap road, is a sufficient voucher for the integrity and honest intentions of the company.—*Macon Telegraph Jan. 4.*

PROPOSED IMPROVEMENT IN UTILIZING SOLAR HEAT—M. Delaurier, of Paris, has suggested a new method of utilizing the heat of the sun's rays, which is thus described in *Van Nostrand's Eclectic Engineering Magazine*:

"A truncated cone, open at both ends, is silver-plated on the inner surface, and highly polished. The solar rays enter the large end, and, because of the equality of the angles of incidence and reflection, converge at the small end. As the length of the cone is increased, the area of the smaller opening may be diminished, and the concentration of heat becomes greater. This simple contrivance, in the opinion of the inventor, may work out an industrial revolution, especially in Africa."

The inventor says:—"Heretofore we have made use of concave mirrors and lenses to concentrate solar rays. Everybody knows the difficulties attendant upon the use of large metallic mirrors having but one focus, and the great loss of heat caused by reflection.

"Lenses are not only a very bad means for concentrating radiant heat, being but little diathermic when thick, and, moreover, impossible of construction when one attempts to make them in sections.

"The process described has a further advantage in the fact that rays incident upon the surface at a small angle lose little by reflection; so that in this case almost all substances can be made good reflectors. But the chief advantage is cheapness and facility of construction. A common wooden box of the right shape, lined with tin, will be sufficient. If it is wished to get a greater concentration of rays, let this pyramid be made long."

STONE ARCHED BRIDGE—BOSTON AND ALBANY RAILWAY.—The *Springfield Republican* says:

"The arch which the Boston and Albany Railway is building in the break in the road-bed, caused by the October flood, near Wilbraham, will be a great work for masonry. The material is granite from the company's quarries at Braggville, near South Framingham, each of the walls will extend 165 feet beneath and at right angles with the railway tracks. The abutment walls just completed, and 19 feet high, reach 10 feet below the bed of the stream, giving 9 feet above. These walls are 10 feet thick, and the arch springing from them will be 2 feet thick. The distance from the bed of the stream to the center of the arch will be 18 feet. F. J. Donahue of this city has charge of the force of 95 men engaged on the stone work and on the top of filling in the chasm with gravel. The work will be done probably in March.

—The Savings Banks of Massachusetts, according to the recent message of Governor Claflin, hold deposits amounting to \$12,000,000; an increase of \$17,500,000 over the deposits of 1868. The reserve funds of the institutions amount in the aggregate to \$2,500,000.

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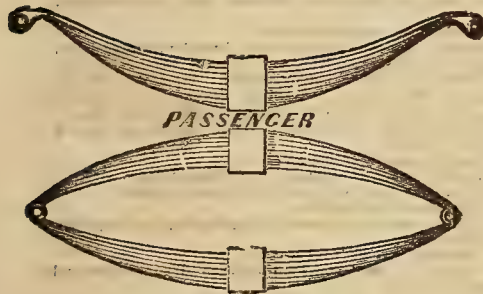
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Notice to Contractors.

CHESAPEAKE AND OHIO RAILROAD.

SEALED PROPOSALS will be received at the Engineer's office at Charleston, W. Va., until 12 M. March 1, 1870, for the GRADUATION, MASONRY and the SUPERSTRUCTURE OF BRIDGES on the Chesapeake and Ohio Railroad between the Falls of Kanawha and the Ohio River, including THREE MILLIONS CUBIC YARDS OF EXCAVATION, and SEVENTY THOUSAND CUBIC YARDS OF MASONRY.

Also, at the Engineer's office at Richmond, Va., until 12 M. March 10, 1870, for several heavy sections east of the Falls of Kanawha, including the unfinished work near Millboro' and that eight miles east of the White Sulphur Springs, the Great Bend tunnel 6,300 feet; Lewis tunnel, 3,800 feet; five other tunnels from 500 to 1,700 feet long; several sections in rock cutting; and about 70,000 cubic yards of masonry.

Profiles and specifications can be found at the office of the company) 54 William street. New York, on and after February 1; at Richmond, Va., and at Charleston, W. Va., on and after January 15, 1870. The company reserves the right to reject any or all the bids offered, and to make private contracts for the work.

Information as to time, etc., will be given at the letting. For further information apply to A. D. Whitcomb, Chief Engineer, Richmond, Va., or to W. A. Kuper, Principal Assistant Engineer, Charleston, West Virginia.

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27-1-70, 4.

President.

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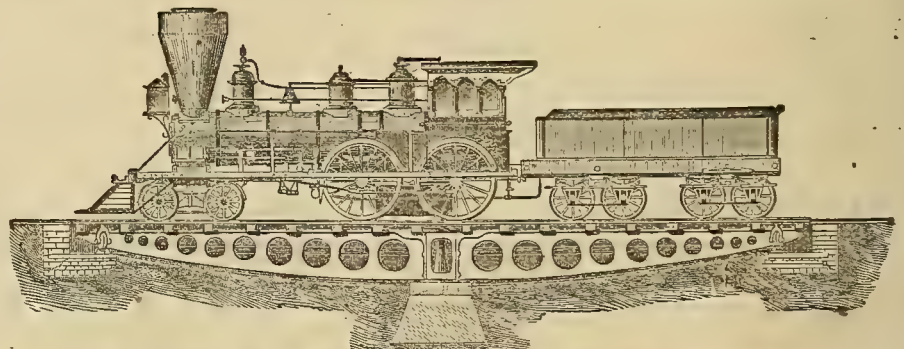
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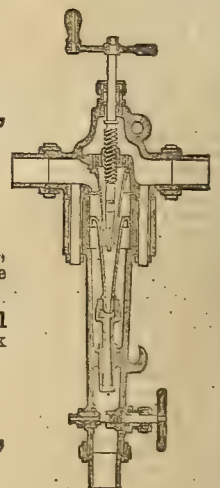
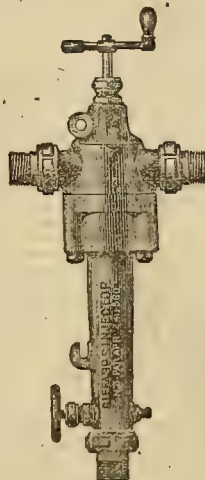
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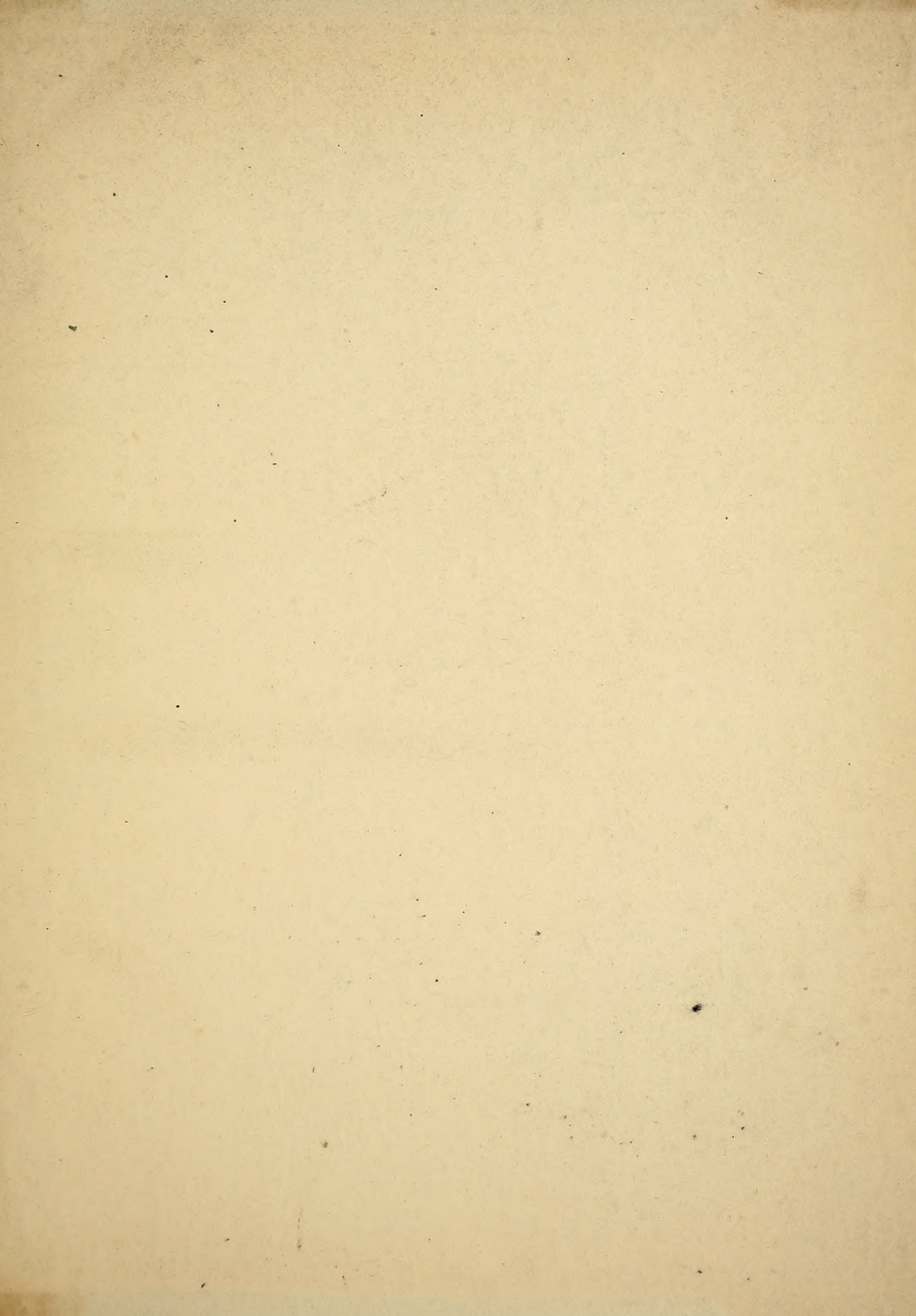
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